

# CONSUMERS' RESEARCH

INCOMPLETE FILE



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# CONSUMERS' RESEARCH

Vol. 18 • No. 5

## BULLETIN

November 1946

### Off the Editor's Chest

**D**URING the past year, after the end of hostilities, consumers, who did without many necessary articles during the Second World War, were led by governmental and other publicity to believe that they would be in a position promptly to replace well-worn appliances and other items on which production had been suspended. Everyone had high hopes for a return to the rapid and abundant production of the pre-war years, with an additional acceleration of output made possible by new production techniques learned in wartime mass-production of military equipment. These hopes were dashed, however, by a series of post-war economic troubles, including the continuance of price control long after V-J Day and a continuous series of strikes in every sort of industry, including some of those most fundamental to national productivity. The most disastrous strikes, from the standpoint of their effect on the interests of consumers, were those in the automobile, steel, soft coal, and appliance manufacturing industries. The maritime strike and the New York teamsters' union strike also severely curtailed the shipping of raw and finished materials and interfered with the normal food supplies of great numbers of people.

Since skillful and widespread propaganda has made "the right to strike" concept appear to be as inviolable as one of the "Four Freedoms" or one of the ten amendments to the Constitution that compose the Bill of Rights, most people were at first inclined to accept the inconveniences and hardships resulting from strikes as a part of the necessary problem of post-war readjustment.

As economic confusion has increased and the conflict of governmental economic policies has steadily become worse, prices have continued to rise (with the doubtful blessing of an extension till July 1947 of OPA's control over nominal prices), and thousands of needed items, particularly in the building and home maintenance fields, have disappeared from the market altogether. Many items are literally scarcer than they were in the period of the most stringent wartime shortages.

Thoughtful consumers have begun to raise the question whether the public good or the welfare of people in general should not take precedence over the "right to strike," particularly where unions violate signed contracts and interfere with the right of non-participants to work, and directly invade the public's right to safety, health, and security from interruption of essential supplies. In many recent strikes, millions of people not involved in the strike situation or concerned in it indirectly or even consciously have had their own livelihoods interrupted by the collateral effects of a strike situation, as when stoppage of bus, trolley, and truck service and of deliveries of freight and express shipments occurred. Strikes in some industries, for instance, have for a considerable period cut off the meat or other food supply of a whole community or a region; in other cases, strikes have interfered with the production of canned foods vitally needed for the Nation's winter supply of food and threatened irreparable losses of food crops about to be canned or shipped to market. A person having

*(Continued on page 24)*

**Scientific and Technical Experts and Editors:** F. J. Schlink, R. Joyce, M. C. Phillips, Helen P. Alleman, A. R. Greenleaf, and Charles L. Bernier. **Editorial Assistants:** Mary F. Roberts and B. Beam.

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price**; 45, 46—year in which test was made or information obtained or organized by the staff of Consumers' Research.

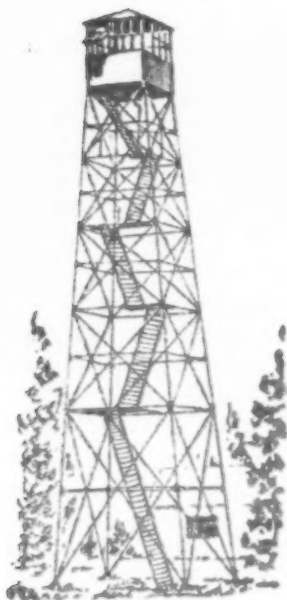
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\*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

★★For a brief cumulative index of 1946 BULLETINS preceding this issue, see page 26.

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## The Consumers' Observation Post

EGGS are an excellent source of high-quality protein and there is now a plan in the offing to make them a still better food. It appears that the amount of vitamin D in eggs varies over a wide range, depending on the feed that a particular flock receives. Under practical conditions an egg seldom has more than 75 units (U.S.P.) of vitamin D, but, according to experimenters at the Iowa Agricultural Experiment Station, this amount can be increased considerably by controlled conditions of flock feeding and management. As a matter of fact, the Iowa researchers foresee the possibility of producing eggs that can be guaranteed

to contain 400 U.S.P. units of vitamin D per egg. This they feel will be an added inducement to people to include more eggs in the diets of infants and certain adults. There will be many who will prefer to obtain the needed amounts of vitamin D in their breakfast eggs rather than as cod-liver oil.

\* \* \*

THE TREMENDOUS DEMAND FOR APPLIANCES has been pretty largely taken care of or dissipated, according to one disgusted dealer writing to an electrical appliance journal. His chief complaint is that there are too many dealers in the business for the number of customers, since, as he puts it: "...strikes with higher prices have ruined many potential sales. The people just do not have enough money to buy the necessities and have anything left for appliances." It is this particular dealer's observation that there is little demand for vacuum cleaners; that radio sales have fallen off badly, and that the two appliances which people still want are refrigerators and washing machines.

\* \* \*

COSMETICS, which were sold in record quantities during the war, continue to increase in dollar volume. Indeed, Business Week reports a 65 percent increase in retail dollar volume from 1940 to 1945, in spite of the fact that the industry was cut off by the war from its chief sources of supplies of essential oils, aromatics, and fixatives. Part of the increase is attributed to the fact that men's cosmetics are beginning to take hold extensively and that farm women who went into war plants got into the habit of using lipstick and skin-protective preparations.

\* \* \*

THAT A QUART OF MILK A DAY is needed by a well-nourished child is questioned by researchers at the University of Illinois. Out of seven pre-school boys studied, they found that only one required as much as a pint of milk daily to supply his calcium needs. It would appear that mothers who have been bothered by the high price of fluid milk may often with a clear conscience cut down on the number of bottles the milkman leaves on their doorsteps in the morning.

\* \* \*

PHYSICIANS who accept rebates from opticians on prescriptions for eyeglasses are reprimanded by the Journal of the American Medical Association, which points out that the A.M.A. has taken the position officially that such practices are clearly in violation of the Principles of Medical Ethics. The Journal quotes from the recent complaints filed by the U.S. Department of Justice under the Sherman Act against several optical firms and eye specialists charging that prices for spectacles were fixed to allow for a rebate to the ophthalmologists of approximately half of the total price paid by their patients for eyeglasses. In addition to this rebate, the examining specialist was of course paid a consulting fee by the patient.



THE HIGH COST OF HOUSING is well illustrated by the case of Precision-Built Homes Corp., of Trenton, N.J. Before the war, Precision-Built put out a small four-room house which sold complete, except for land, with heating, plumbing, and lighting equipment at \$2750. Today, according to company figures, labor that in 1939 was \$450 is \$2100; plumbing that was \$700 is \$1350; electrical work that cost \$85 is now \$200; the cost of millwork has increased from \$185 to \$600. Adding a minimum profit to total costs, including a number not listed, would put a price on the house of \$7500. The company frankly admits the house is not worth that much money, and it is therefore not going to build any more until present building prices come down.

\* \* \*

PRESTONE MOTOR OIL appears to have a disadvantage, which does not occur in regular petroleum motor oils, in its inability to "wet" the surfaces within an automobile engine. Engines using this oil which have been left standing in storage for some time have been reported as exhibiting severe rusting of cylinder and piston walls. One expert suggests that the rusting may be caused by the inability of the oil to absorb small percentages of water.

\* \* \*

POTATOES were produced this past season in near-record supply. Since the Administration has guaranteed the farmers 90 percent of parity for the crop, the taxpayers will pay for the excess supplies which in September were reported to be rotting in warehouses, barns, and fields. It is not considered practicable to ship potatoes overseas to relieve foreign food shortages because of the high rate of spoilage plus the fact that most European countries have plant-quarantine restrictions against them and prefer to import wheat.

\* \* \*

MORE THAN 50 PERCENT OF ALL AUTOMOBILES now in operation are 10 years old or older, according to one estimate. Unless the replacement parts shortages are relieved, there is likely to be a breakdown in essential transportation, for the new cars are coming through at only half the rate of normal production. One of the severest blows to continued production of needed parts was an order by the Civilian Production Administration diverting a considerable part of pig iron production to the housing program and the farm equipment industry. Even the new cars that are being delivered lack certain equipment, such as the customary bumpers, for which two by four planks have been pinch-hitting at times. The bureaucrats should be told that cutting off essential production of parts needed to keep transportation rolling in a desperate effort to get veterans' houses built won't make the government planners popular, if means of transportation for getting to and from the new houses are not available.

\* \* \*

GOVERNMENT EXPENDITURES for the first year following the end of hostilities of World War II were greater in amount than for the total of five years' spending just before the outbreak of the war. According to an estimate by the National City Bank of New York, the government's spending imposes a tax burden of approximately \$1000 on the average American family and consumers should remember that such taxes are a large factor in the present high cost of living. Tax reductions by decreased governmental spending can be more important than reducing prices for meats and dairy products, but the government officials seem never to express any indignation at the high and ever-increasing cost of their services; it's always the farmer, or the packer, or the restaurant keeper who must be restrained from contributing to any rise in the cost of living.

\* \* \*

DDT, THE MUCH ADVERTISED NEW INSECTICIDE, has been discovered to have some value as a marine antifouling agent. Since it is insoluble in water, it may be incorporated in the paint used on the bottom of ocean craft. Experiments by a Yale University researcher, reported in Science, showed that over a four months' period, DDT incorporated in marine paint was effective in inhibiting the development of barnacles, although it did not provide effective control of other organisms which cause fouling of ship bottoms.

\* \* \*

TREE-RIPENED FRUIT has a greater sales appeal than fruit packed at the "hard ripe" stage, according to a study made by the South Carolina Experiment Station. Peaches that were allowed to ripen on the tree and shipped to market in a refrigerated car were put on sale at 17c a pound along with "hard ripe"

(The continuation of this section is on page 20)



# High Chairs

FROM the time a child is able to sit alone (about 6 to 8 months) until he is three years old or more, a high chair is a useful piece of nursery furniture. As the name indicates, the conventional high chair is a chair high enough to support the child at a convenient level for feeding. A tray is provided to make a small table for the baby, and usually some safety device is provided to keep him from falling out of the chair.

When the child grows older and is able to sit erect for longer periods, many mothers will leave him in his chair to play. While this may be convenient for the mother, a baby should not be left in his chair for any considerable length of time. A normal baby exercises constantly when awake, and it is undesirable to confine him so that he cannot turn his body or move his arms and legs about as he wishes.

Child guidance experts suggest that when a child is learning to feed himself, he should be seated at a low comfortable table, and allowed to eat by himself. Some high chairs are so contrived that they can be converted into a separate table and chair, and thus will serve for this purpose as well.

The *Edison* chair tested, for example, can be separated into a small chair and table; the chair can be locked to the table or allowed to remain separate. A rail is provided around three sides of the table, and this can be removed (leaving only two small holes) when the child is



*Edison, Model 24 (open)*

older and does not need the rail. The set could thus be used until the child outgrew it, as a play table and chair in the nursery, long after its young owner had acquired sufficient skill in eating to join the family at mealtime.

The *Thayer* and *Heywood Wakefield* chairs are of a folding type which can also be converted into a wheeled vehicle consisting of a chair and play table. They are less desirable than the *Edison* type, however, because in the process of converting to a chair-table combination, the front rung just below the hinge rises, forcing the footrest into a position which may or may not be comfortable for the child. The footrest of the *Edison* chair can be folded back out of the way, leaving more space for the child's leg movements.

A departure from conventional designs is the *Babee-Tenda*, which is not a high chair at all but a low table with a square opening in its top in which is suspended a seat for baby. In addition there is an auxiliary chair for use by the adult who supervises the child's meals and for the child himself when he is older. When used as a table only the hole in the table top is closed by sliding what had been the seat back into the opening to form a solid top.

Most of the high chairs tend to be very much alike in form and dimensions, and it is with some difficulty that manufacturers develop sales points for their particular product. The principal point of attack has been the tray, particularly the material and finish (with emphasis placed on ease of washing). Considerable ingenuity has been expended in devising various types of catches and methods of adjusting position of the tray to the growing child. It is desirable, of course, that these catches work easily and hold the tray securely, but too much weight need not be given to claims concerning easy operation of catches, for it is possible to place a child in a chair and to remove him from it for weeks at a time without once touching either the tray or its catches.

Another sales point is the use of upholstery on parts of the chair to increase baby's comfort. It should be remembered that children at this age



Thayer, No. 4654 (open)

tend to sit erect and not to lean against the back of a chair. A pediatrician has stated that upholstery is simply a matter of comfort, and has no beneficial or adverse effect on posture or development. Upholstery, however, has some disadvantages. The materials do not wear so well as wood, and they are usually more difficult to clean of spilled food. Those who want to use a seat pad to protect baby from bumps, can buy pads for about \$1.50 each, and discard them when they are worn or dirty. Ruffles and such ornamentation are sheer frippery and present a sorry appearance after a lively baby has worked them over for a time.

Some chairs, such as the Thayer tested, provide toilet facilities. This is a dubious addition, since the use of a high chair as a toilet training chair is not advised by those who believe that toilet training should be with equipment that will be associated with the act by the child. Child guidance experts also advise that the toilet chair should be in the nursery or bathroom, not

in the kitchen or dining room, so the child will learn at an early age that certain things are not done and talked of publicly.

Many manufacturers stress the safety of their chairs, but so far as examination showed, a baby could fall from any of those tested. Tipping over from outside forces was also possible with all of the conventional chairs tested, and there was little to choose between them in this respect, though some were more stable than others.

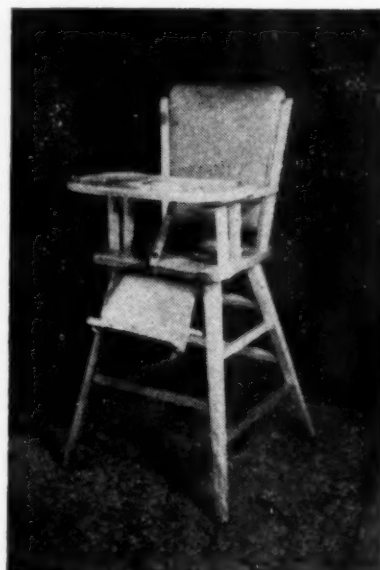
Tests made for Consumers' Research of ten chairs included examinations of wood and materials used, assembly, finish, workmanship, footrest, leg ends, safety strap, and weight. Wood was ranked on the basis of quality, and assembly was judged from types of joints used, wedges, etc. A good hard smooth finish is particularly necessary on the trays as ease of cleaning is of great importance. Glossy finishes were considered as being more susceptible to marring than dull or "luster" finishes; dark glossy finishes were judged least desirable, as scratches show quicker on this finish. A sturdy footrest with a stout hinge and metal brace was considered most desirable, as were protected leg ends. The use of grooves for ornamentation was considered a disadvantage since they serve to catch food particles and interfere with effective cleaning of the chair. The comments on tipping, in the listings, refer to the relative stability of the chairs in so far as external forces are concerned.

In rating the chairs, no value was given to the opinion judgments of the appearance of the chairs, since this is a matter of

personal preference in many cases. Comments are included in the listings, however, as they may be considered useful by some buyers. Ratings are cr46.

### A. Recommended

*Secur-i-kidy*, Model 502—3540 Blue (Sheboygan Chair Co., Sheboygan, Wis.) \$13.50. Natural maple, with luster (desirable) finish. Seat height, 23 $\frac{3}{4}$  in. Weight, 18 $\frac{1}{2}$  lb. Quality of materials, excellent; workmanship, good; assembly, fair. Stability below average. Wooden tray of good quality but rather difficult to adjust. Footrest had heavy hinge with wooden brace. Cotton webbing safety strap judged satisfactory, and operated easily with footrest down



*Secur-i-kidy*, Model 502—3540

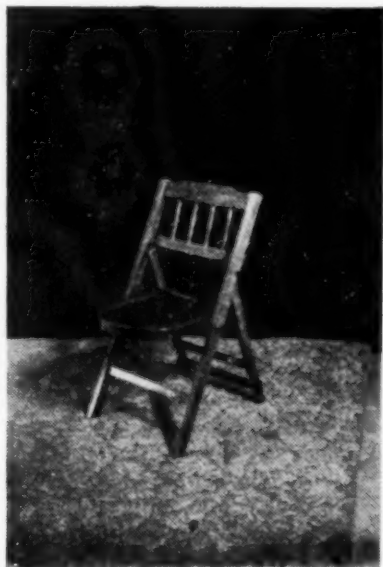
or up, except in last notch where it could be opened but not secured. Appearance judged attractive. Cotton felt pad on back covered with blue embossed artificial leather. 2

*Babee-Tenda*, Model 100-A (Babee-Tenda Corp., 750 Prospect Ave., Cleveland 15) \$18.65. Sold only through local agents. Not a "high" chair but a low table equipped with a seat made of two pieces of ticking. An auxiliary chair is provided to be used by an adult when feeding the child, for example, and by the child when older. (See illustrations.) Purchase price included cushion, harness, and the auxiliary chair. Height, 14 $\frac{1}{2}$  in. Weight, 17 lb. Quality of materials, very



*Babee-Tenda, Model 100-A (table)*

good; workmanship and assembly, excellent. Most stable of all types of chairs tested. Adjustable (4 position) footrest. Canvas webbing safety strap. Chair-table's appearance judged neat, but not especially attractive. The *Babee-Tenda* table is mounted on casters which permit it to be moved easily; it also



*Babee-Tenda (chair)*

folds compactly and may be carried in an automobile. May be used as a play table and chair for the child when older (see text).

**3**  
*Babyguard, Model 94* (Lehman Co. of America, Inc., Cannelton, Ind.) \$18.95. Chair, natural maple and

oak with high-gloss finish; tray, natural maple with luster finish; aluminum legs. Seat height, 22 in. Seat slightly lower than that of other chairs tested and arms would clear standard 30-inch table, hence chair may be used at table as a youth chair. Weight, 16 lb. Quality of materials and assembly, excellent; workmanship, very good. Stability below average. Wooden tray had



*Babyguard, Model 94*

wide range of adjustment and could be operated with one hand, although sample tested was somewhat subject to binding. Hinged footrest with wooden brace. No safety strap. Appearance, excellent.

**3**  
*Edison, Model 24* (Edison Wood Products, Inc., New London, Wis.) \$15.95. Natural maple; chair with high-gloss finish and tray with luster finish. Seat height, 25½ in. Weight, 25½ lb. Quality of materials, excellent; workmanship, very good; assembly, fair. Stability, excellent; highest of all conventional chairs tested. Wooden tray fitted a little snugly. Type of catch required two hands to operate. Hinged footrest which may be folded out of way for older child. Leather safety strap, screwed to tray and snapped under seat edge. Appearance judged very attractive. This chair separates into a chair and table (see illustrations), and auxiliary catches are located in table for locking chair to it if desired. One of these failed after a few operations. Side rails of table



*Edison, Model 24*

may be removed as child grows older.

## B. Intermediate

*Safe-T-Bilt, No. 44* (Williamsburg Chair Co., Williamsburg, Ohio) \$11.25. Principally natural maple with luster finish. Seat height, 23 in. Weight, 17 lb. Quality of materials and assembly, good; workmanship, poor. Stability below average. Tan mottled plastic tray, easy to adjust with two hands. Hinged wooden footrest with wooden brace. Cotton webbing safety strap with buckle, held under seat by one small tack (unsatisfactory method of at-

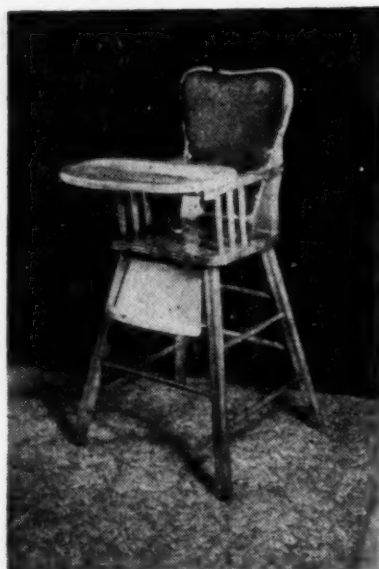


*Safe-T-Bilt, No. 44*



tachment), riveted at tray end. Appearance, very good. <sup>2</sup>

*Storkline*, No. 10 F 214 (*Storkline Furniture Corp.*, 26th and Kostner Ave., Chicago) \$12.98. Chair, dark brownish tan wood; tray, maple; both with high-gloss finish. Seat height, 23 $\frac{3}{4}$  in. Weight, 17 $\frac{1}{2}$  lb. Quality of materials, poor; assembly, fair; workmanship, excellent. Stability about average. Wooden tray may be latched with one hand. Wooden footrest with metal brace. Leather safety strap, screwed to



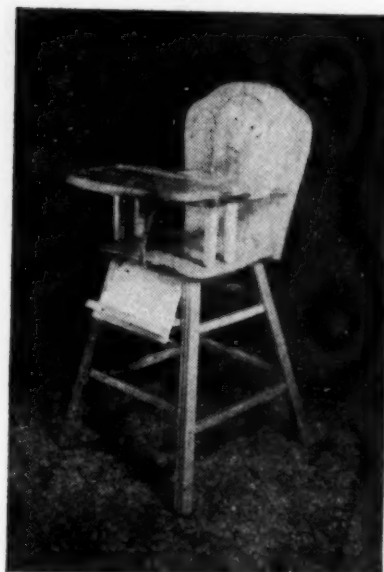
*Storkline*, No. 10 F 214



*Thayer*, No. 4654

Mass.) \$16.95. Principally tan-colored maple with dull rubbed finish. Seat height, 24 $\frac{1}{4}$  in. Weight, 27 lb. Quality of materials, excellent; assembly, very good; workmanship, poor. Stability much above average (second highest of conventional chairs tested). Wooden tray swings up over baby's head on two curved bows. On sample tested, one bow was cracked and tray was misaligned. Adjustable footrest with wooden brace which was dislodged by slightest touch. Leather safety strap fastened to tray with one small tack,

snapped under seat; tack could be easily pulled out if tray were lifted with end of strap snapped under seat. Sample tested had lost strap. Appearance, fair, but continuation



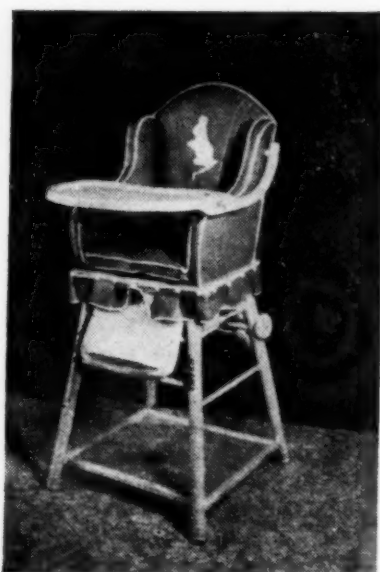
*Honeysuckle*

of fair appearance questionable because upholstered back would be hard to clean and the ruffle around chair seat was a dirt catcher, likely

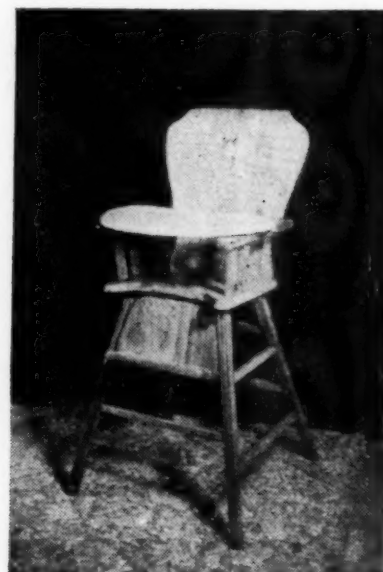
tray and snapped under seat. Appearance, very good. Tacks of the binding of the upholstered pad on the back were accessible to the chair's occupant (a disadvantage). <sup>2</sup>

*Thayer*, No. 4654 (*Thayer Co.*, Gardner, Mass.) \$13.95. Principally natural maple with dull luster finish. Seat height, 24 $\frac{1}{8}$  in. Weight, 25 $\frac{1}{2}$  lb. Quality of materials, good; workmanship, poor; assembly, fair. Stability above average. White plastic tray easy to adjust with two hands. Heavy wooden footrest with metal brace. Leather safety strap screwed to tray and snapped under seat. Appearance, fair. Chair provided toilet facilities (toilet bowl on rack), and was also convertible into a wheeled table and chair combination. (See illustrations.) <sup>2</sup>

*Heywood Wakefield*, No. C-2869-H (*Heywood-Wakefield Co.*, Gardner,



*Heywood Wakefield*, No. C-2869-H



*Wards Babyguard*

to be worn by a lively baby. This chair can be converted into a low wheeled table and chair combination. <sup>3</sup>

### C. Not Recommended

**Honeysuckle** (Sears-Roebuck's Cat. No. 1—8761) \$8.95, plus postage. Principally natural maple; chair with high-gloss finish, tray with luster finish. Height, 22 3/4 in. Weight, 19 lb. Quality of materials and assembly, good; workmanship, poor. Stability below average. Wooden tray adjustable, with use of two hands. Hinged footrest with wooden brace. Leather safety strap, tacked to tray (2 tacks), with eye-

let and slot which fasten to pin under seat; very difficult to fasten or loosen (impossible without lowering footrest). Appearance, fair. This chair would possibly be a desirable purchase when price is a prime consideration, and some inconvenience would not be objectionable. 1

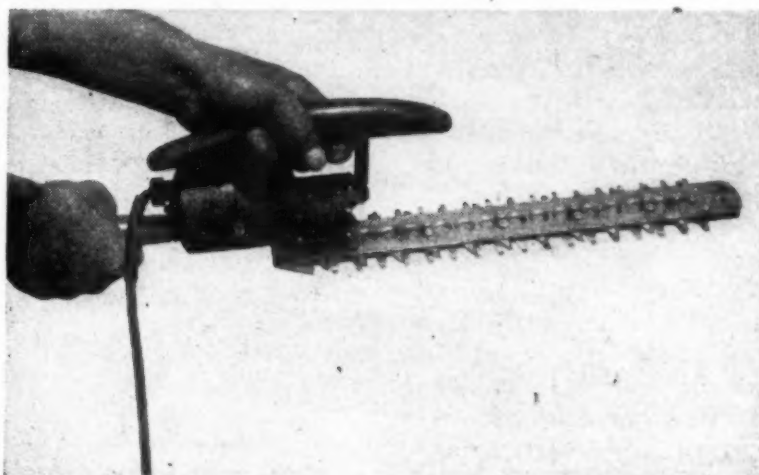
**Wards Babyguard** (Montgomery Ward's Cat. No. 66—2504R; made by Lehman Chair Co., Cannelton, Ohio) \$8.95. This number not listed in 1946-47 Fall and Winter

Catalog, but 66—2503R at \$9.29, plus shipping charges, appears to be practically identical. Wood, probably gum stained maple and varnished, reddish brown or brown on under portions. Height, 22 3/4 in. Weight, 16 lb. Quality of materials, finish, and workmanship, poor; assembly, good. Stability poor (tipped more easily than any other tested). Tray and footrest similar to that of the Lehman *Babyguard*. No safety strap. Appearance, very good. 1

## Power Hedge Clippers

ALTHOUGH this is not the season of the year that one normally purchases hedge clippers, the fact that electric motor-driven clippers are now beginning to be available may cause some subscribers to purchase one now in order to have it in readiness for next season. It is hoped that reference to this preliminary report may help hedge owners who have grown tired of clipping their hedges with hand shears to save money and avoid disappointment when they come to buying a power clipper.

Two types of hedge trimmers were tested—one the *Hedge-Klip*, which was complete with a *Universal* electric motor for 110-volt ac-dc, and the other the *La Rene*, which was designed to receive its power from a shaft inserted in the drill-chuck of any standard 1/4-inch electric drill. The performance of these two clippers was compared with that of a pre-war product known as the *Hedgshear*, manufactured by Syracuse Tooelectric Mfg. Corp., 1720 N. Salina St., Syracuse 8, N.Y. The power clippers were also put into compe-

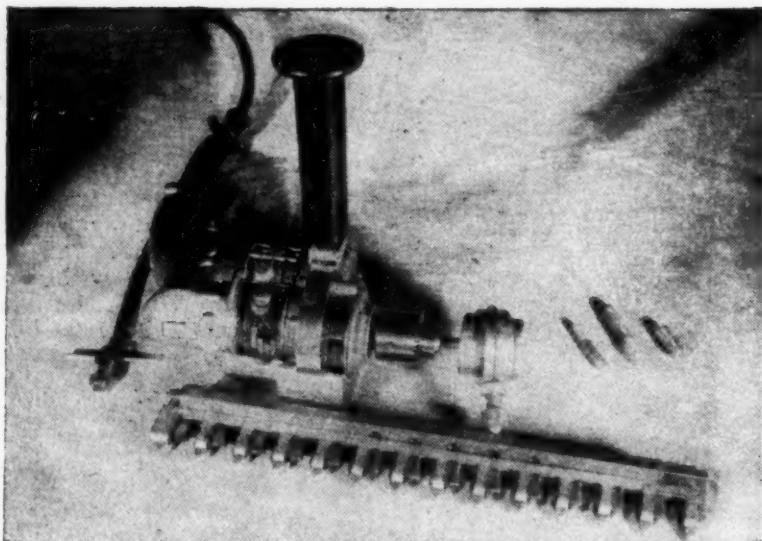


*Hedgshear*

tion with manual clipping of a hedge by means of a good pair of hand shears. The *Hedge-Klip* was found to be unsatisfactory for work on normal-sized shoots such as are shown in the illustration. These stalled the underpowered motor and cut down the cutting action so much that it required more time to cut a hedge than with the hand-operated shears. The motor also heated up very rapidly and, after a few minutes had

elapsed, became too hot to touch. The weight of this device (8 lb.), its slowness of operation, and its marked lack of the necessary power or keenness, or both, made the appliance very tiring to operate.

The *La Rene* was an ingenious device which, as already mentioned, was to be used as an accessory to an electric motor-driven hand drill. This was attached, in accordance with instructions, to a *Thor* electric drill, Model No.



*La Rene Hedge Trimmer*

cam heated up rapidly possibly indicating a serious fault in design, as there appears to be no good reason why, if properly made and fitted, it should not run cool.

#### A. Recommended

*Hedshear* (Syracuse Tooelectric Mfg. Corp., 1720 N. Salina St., Syracuse 8, N.Y.) Price in 1940, about \$25. (Not yet available for 1946 delivery, and 1946 price not yet established.) This clipper has been used hard each season, sometimes by several different people, and with no particular attempt to protect it from hard usage. Only one minor repair was required, and that was one which was not due to any fault of the shear itself. The cutting mechanism is very well made and consists of toothed cutters constituting parts of a chain which revolved rapidly in one direction. The appliance was easy to hold and cuts fast. Weight, 5 $\frac{3}{4}$  lb.

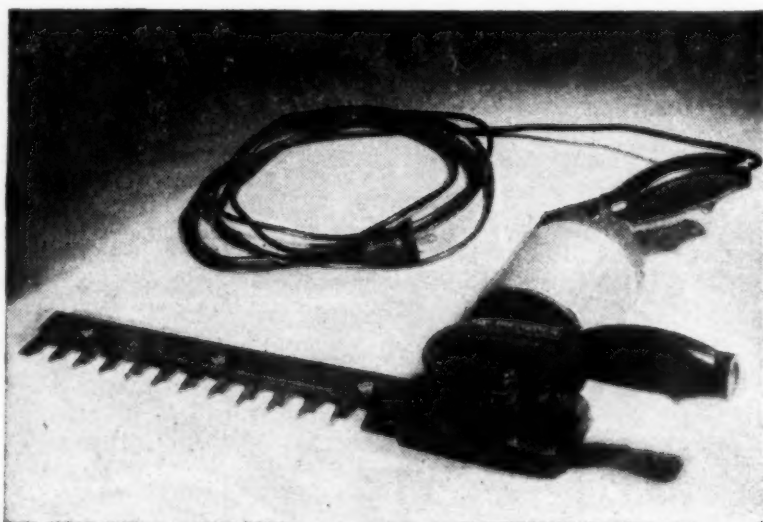
#### C. Not Recommended

*La Rene Hedge Trimmer* (John L. James Co., 307 Fifth Ave., New York 16) \$16.90. Designed for attachment to any standard portable  $\frac{1}{4}$ -inch electric drill. Cutter bar, 12 in. long; had reciprocating (back and forth) motion. Weight with drill, 5 lb. 15 oz. Claimed to be so

5576, operating at about 2500 rpm., but it gave poor performance, less satisfactory, if anything, than that of the *Hedge-Klip*. The drill motor heated up rapidly, but did not become as hot as the motor of *Hedge-Klip*. While the *La Rene's* performance might have been improved somewhat with a heavier and more powerful hand drill to drive it, this would not have been a practical solution as the *Thor* electric drill which weighed 3 lb. 6 oz. was as heavy as the motor unit should be if it was not to be too tiring for the operator. The weight of the drill and the *La Rene* together was 5 lb. 15 oz. (The drill was one which handled normal drilling operations without overheating.)

The *La Rene* had one additional serious fault. It was fastened to the electric drill by means of a narrow band clamp. This arrangement did not suffice to hold the cutter bar in alignment with the driving arm, with the result that during operation, the driving arm jumped out of its socket. The

whole arrangement for connecting the cutter mechanism to the power drill was quite unsatisfactory and needed further engineering development. Moreover, the workmanship and fit of the cutting bar were not nearly up to what was required to make an efficient and durable device. The driving

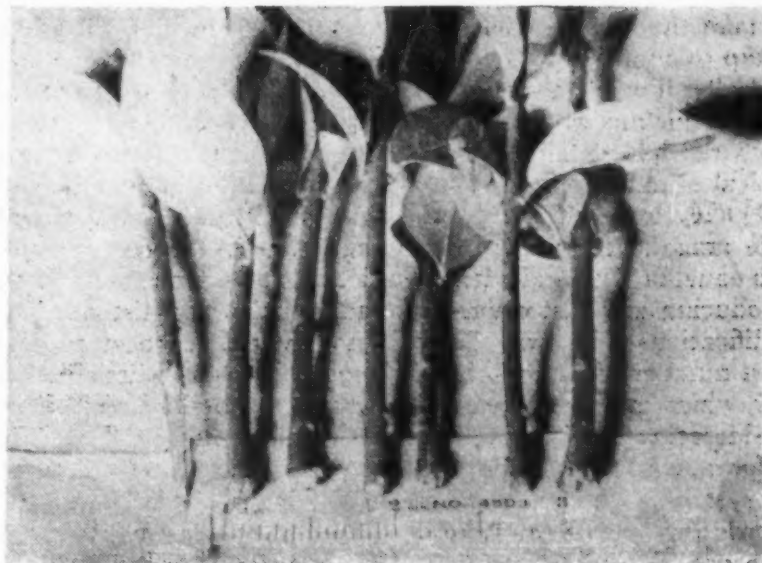


*Hedge-Klip*



light a woman could operate it, and to cut "100 feet of hedge in 20 minutes." Unfortunately the manufacturer did not say how much the hedge could be permitted to grow and yet permit such speed to be possible, and it is certain that fast cutting would be wholly impracticable unless the hedge were clipped frequently enough that the shoots were small and tender.

*Hedge-Klip* (Accmatool Co. Inc., 102 W. 101 St., New York 25) \$40. Unit equipped with 110-volt ac-dc Universal motor. Cutter bar, 12 in. long; had reciprocating motion. Weight, 8 lb. Advertising claim, "you can trim every twig, cut every limb cleanly and sharply.", was not substantiated in tests. Motor was underpowered, slowed down and stalled frequently, and became hot very quickly. Wiring to motor was poorly done, and not properly secured and insulated; after very little use, one wire became short-circuited by contact with the commutator and burned through.



Typical normal sized shoots of a privee hedge which Hedge-Klip failed to cut without stalling the motor. The diameter of these can be judged from the scale divided into 20ths and 10ths of an inch seen below the torn ends of the shoots.

## Phonograph Pickups

IN RECENT YEARS the increasing quality of recorded music has brought about the growth of a large group of listeners who not only want the best in phonograph records, but who also demand the best in reproducing equipment—turntables, pickups, amplifiers, loud-speakers. This demand has been evidenced by the appearance on the market of a considerable number of so-called "high-fidelity" pickups; a number of these form the subject of the present study.

A pickup may be described as that part of the reproducing mechanism of a phonograph which contains the phonograph needle together with the means for changing the vibratory

movement of the needle into electrical energy that can be fed into a vacuum-tube circuit. There are, besides, an arm and bearings, for controlling the swing of the needle and its associated parts upward and downward and across the record. The quality of the pickup determines to a large extent the life of the records reproduced by it, and the pickup is besides one of the most important links in the chain of reproduction which begins with the record and ends with the reproduced sounds.

It is important to note that the pickup is only one of the links determining good record reproduction. The quality of the loud-speaker and its hous-

ing or "baffle" has probably an equal effect upon the final reproduction, while the amplifier (which builds up the electrical impulses generated by the pickup to sufficient strength to actuate a speaker) must also be of very good design and workmanship. There are undoubtedly many radio phonograph combinations in use today whose reproduction of phonograph records would be vastly improved by the use of a better pickup. (There are many, too, that are so poor in performance that a new pickup would not give any great improvement.) In most record players (particularly those which do not use an automatic record changer), it is a simple matter for a radio serviceman

to make the change from one pickup to another.

Ideally, it would appear that the best pickup would be one which reproduces all recorded musical sounds from say 20 to 20,000 cycles<sup>1</sup> (the approximate range of the human ear) with equal facility and without introducing any distortions or modifications of its own. There are a number of factors, however, which must be taken into consideration in judging the performance of any reproducing system. The phonograph records now generally available have progressive losses in the high treble so that sounds or overtones in excess of 8500 cycles generally cannot be reproduced at all. This progressive loss may begin at about 5000 cycles, depending upon the particular make and quality of record, of course.

The matter of needle scratch or hiss must also be considered. Under any given set of circumstances it is known that the wider the frequency range being reproduced, the more evident will be the needle scratch emanating from the loudspeaker. This scratch is often annoying and may be a very unpleasant background to good music. The amount of needle scratch which may be tolerated varies widely with the listener, and since the disturbance is most evident at frequencies between 3000 and 5000 cycles, those to whom needle hiss is most objectionable might prefer reproduction in which higher frequencies progressively dropped in intensity above 3500 cycles. It is certainly better, however, to obtain such a

loss of treble in controlled fashion, by the use of a tone control, rather than through equipment having a fixed drooping response characteristic, since needle hiss will vary widely with individual recordings, and its degree of objectionableness depends upon the individual who is listening. In any event, a good pickup should cause as little needle scratch as possible, considering its response range.

As to the bass end of the scale, it has been found that many people prefer a rather exaggerated reproduction of low tones. This may be partly explained by the fact that the relative sensitivity of the ear to low tones (and to the treble as well) varies in accordance with the volume of the sound being heard. In the concert hall the volume of sound is much greater than could be tolerated in one's living room, so that the bass notes appear to be relatively loud as compared to the middle register. When listening to reproduced music (at far lower sound levels) it is often found desirable to "boost" or increase the loudness of the bass to maintain this apparent balance. (Were it not for the troublesome matter of needle hiss, the foregoing discussion would apply equally well as a reason for having a treble boost.) The manner in which records are cut with intentional weakening of the lower frequencies (to prevent grooves with a wide to-and-fro sweep, corresponding to loud low tones, from cutting into each other) also results in a gradual loss of bass volume beginning at about 250 cycles—or about middle C on the piano; this loss progressively increases for lower tones. Most reproducing systems are ar-

ranged to compensate to some degree for this cutting off of the loudness of recording of the bass region.

It would appear then that various compensations must be incorporated in or just before the amplifier in order to obtain reproduction satisfactory to all listeners and to overcome unavoidable losses elsewhere in the system. Since compensation or equalization must be used, it is important that the pickup lend itself to this requirement by having a "smooth response curve"; in other words it must translate the recorded sounds into electrical energy without special emphasis or discrimination for any particular small region of the audible range. A gradual or smooth change in energy transformation can be equalized, but it is extremely difficult to equalize an abrupt change. For examples of smooth (but not necessarily linear) response curves see *Astatic FP-38* and *GE Variable Reluctance*. The curve of *Audax Pro-2L*, on the other hand, has a moderate "peak" at about 7000 cycles.

The electrical output of all pickups will contain, to some degree, what are known as distortion products, or modifications of the recorded sounds which have been introduced by the pickup. The better the pickup, the lower this distortion will be. Distortion products are most serious when they are generated with tones whose fundamentals fall in the bass or lower middle register. The distortion products of these tones will appear as harmonics or as spurious frequencies in the range where the human ear is most sensitive to tone quality—namely from about 1000 to 5000 cycles—

<sup>1</sup>Authorities differ on the range of response of the human ear; another figure given by a reputable source is 16 to 16,000 cycles. As people grow older, there is a marked loss of sensitivity to the higher frequencies, and sounds having frequencies above 12,000 cycles, for persons over the age of 30, and of 10,000, over the age of 50, may not be heard at all.

and will then be unpleasantly noticeable to anyone with a musical ear. For this reason it has been estimated that 5% distortion at 100 cycles is as noticeable as 35% distortion at 1000 cycles, when sound reproduction is at a low level.

There are two major types of distortion: harmonic distortion, and that produced by intermodulation. The former results in the generation of extraneous sounds which are "harmonically related" to the fundamental. The timbre (or identifying quality) of the original musical note is thus changed, but the ear may not be greatly offended by it. Intermodulation effects, on the other hand, are not "harmonically related" and are therefore in the nature of discords and thus offensive to the ear. It is generally considered that up to 5% distortion can be tolerated for high-fidelity reproduction. For the critical listener, however, less than this amount will be desirable at the low and middle frequencies.

The record enthusiast with a valuable collection of disks is certain to require that his pickup cause as little wear to the record as possible. Of the various factors entering into such a consideration probably the most important are the *type of needle, the pressure exerted by the needle, and the so-called "tracking error."* (The amount of wear caused by the various types of needles has been covered in CR's issues for January 1946, February 1946, and March 1946, to which the reader is referred.) Needle pressures have been lowered considerably in the past few years so that pressures of about one ounce are now not uncommon, but such

low needle pressures are usually found only in the better record-playing equipment. A needle pressure of one ounce seems to be a good compromise, in that it will keep needle and record wear low while still allowing, in a properly designed pickup, satisfactory and dependable driving contact between the record groove and the needle.

Tracking error is another reason for record wear, and on theoretical grounds at least can account for some degree of loss of fidelity. With an ideal pickup (which does not exist in practice, of course), the phonograph needle should theoretically stand in the record groove at a slight angle from the vertical, and should move across the record in such a way that its intended direction of vibration is at all times perpendicular to a tangent to the groove at the point of needle contact. However, with equipment now available, as the needle is swung across the record by the pickup, the intended direction of vibration departs from the perpendicular by a small angle. This small angle is generally known as "tracking error." The smaller the angle the less the error will be. As the needle is moved toward the center by the rotation of the record, the needle is turned slightly due to the presence of tracking error. This rotation results in the sharp edges of the flat spots coming into contact with the sides of the groove, with relatively rapid cutting of the groove walls. However, since authorities do not seem to agree on the practical importance of ordinary amounts of tracking error, no special consideration was given this point in rating the pickups.

Phonograph pickups may be broadly classified into two groups: crystal and magnetic. Crystal pickups depend upon the bending or flexing of Rochelle salt crystals (piezo-electric effect) for the conversion of needle motion into electrical voltage impulses. These crystals are susceptible to high temperature or humidity—may in fact be ruined by exposure to temperatures over 120°F. On the other hand, most pickups may deteriorate rapidly upon prolonged exposures to elevated temperature due to the deterioration of the rubber or plastic used in them for damping. Magnetic pickups are made in several variations and are sold under numerous proprietary names such as the GE "Variable Reluctance" and the Audax "Relayed Flux" Microdyne.

Magnetic pickups are susceptible to hum when located in alternating fields. This sometimes causes difficulty because of the presence of a strong alternating current magnetic field around the turntable motor. The matching transformers often required by the magnetic type also introduce problems involving hum, and these transformers must be of high quality and hum-shielded, or carefully located away from magnetic fields.

High voltage-output is desirable in a pickup in order to decrease the amount of "gain" or amplification required of the amplifier. This makes for simpler design of the amplifier, lessens susceptibility to hum, and lowers the cost. High voltage output is particularly important if equalization is used since equalizers always result in reduction of usable output from a pickup or amplifier.



It must be understood that the voltage output of a pickup may be insufficient for its use with a particular phonograph or radio-phonograph, depending upon the amplification available in the instrument. It is necessary, therefore, in buying any of the pickups (except the *General Electric* and *Zenith Cobra*, which are available only as a part of the respective radio-phonographs) that have low voltage outputs, such as the *Audax D-38-H* or the *Astatic FP-38*, to be sure that sufficient electrical output will be delivered to the amplifier by the pickup to provide satisfactory volume level from the loudspeaker. It may be necessary in some cases, accordingly, to buy the pickup with the provision that it can be returned if sufficient output is not afforded. Where it is known that the amplification available is not large, or there is doubt about the sufficiency of the output of the phonograph, a pickup with high output, such as the *Shure 93 AN* would be chosen. It will be noted that in the listings herewith the high voltage outputs, except in the single instance of the *Shure 93 AN*, go with undesirably high needle pressure; nevertheless, the advantage of low needle pressure may have to be sacrificed in order to obtain sufficient output to produce proper volume with many or most existing record-reproducing units. On the whole, crystal pickups provide a higher voltage output than do magnetic pickups. For reasons given in this and in the preceding paragraphs, CR, as in the past, considers that the crystal type of pickup is the one that average listeners will find most practical for home use.

The *Zenith* pickup which was

included in CR's test was neither of the crystal nor magnetic type. Instead, the pickup head contained a small coil placed close to the needle shank; on the latter was mounted a small vane. As the needle followed the modulations of the record groove, the vane was vibrated toward and away from the coil, varying the electrical characteristics of the coil. This coil formed part of an oscillator circuit, the remainder of which was contained in the preamplifier unit accompanying the pickup. The alteration of the electrical characteristics of the coil by the change of position of the vane modulates the oscillator circuit; the modulated currents produced are detected and amplified by circuits in the preamplifier much as a radio receiver picks up a program from a radio station. The extremely light loading of the needle, due to its having to drive only the small vane, is an advantage, in that the needle can vibrate quite freely in following the sinuosities of the record groove; one result of this condition is that only very light pressure is necessary to make the needle follow the groove properly.

All of the factors discussed in this article were considered in CR's test. In addition the following were also taken into account: mechanical strength and quality of bearings, expected life, difficulty of mounting, and amount of noise radiated directly from the needle. The latter item is not particularly important to those using high-quality playing equipment since most good record players have a cover over the pickup and turntable, to shut off the direct sounds from the needle. Direct needle noise is usually

low with low needle pressures.

In making the tests on which the following ratings are based, Columbia Frequency Record No. 10003-M was used for frequency response measurements. A wave analyzer embodying a very selective filter was employed to measure the recorded tone as produced by the pickup and to eliminate scratch, rumble, and distortion products from the readings. Where response curves with equalizers are given, such equalizers are those described in the instruction sheets furnished with the pickups, and do not necessarily reflect the best equalization that may be possible for a given pickup. Where quality of bearings is discussed, the "vertical bearing" refers to the pivot allowing motion of the arm across the record; the "horizontal bearing" to that allowing the pickup to be lifted from or lowered to the record.

Tracking error was measured with the pickup positioned in accordance with the maker's directions—the error found could have been lessened in some cases by better design. For each pickup tested, a graph or set of curves is given showing the way the response of the pickup varies from low to high frequencies. Superimposed on the curve or curves representing the performance of the pickup itself, is a curve, alike in each case, showing the characteristics of the Columbia 10003-M standard test record. All the pickups had so-called permanent needles except the following: *Astatic*, Model B-16; *Astatic*, Model AB-8; *Audax Microdyne*, Model Pro-2L; *Audax Microdyne*, Model D-38-H. With these four, *Victor Full-Tone* needles were used in carrying out the test.

## A. Recommended

**Astatic, Model FP-38** (Astatic Corp., Conneaut, Ohio) \$18.35. Crystal type. Frequency response with use of equalizer specified by manufacturer, excellent, almost ideal, but with the equalizer giving flat re-



sponse, the output was so low (0.051 volts) that the pickup would often not be considered suitable for ultimate consumer use, as it would call for the addition of a preamplifier to the circuit; this, acting in combination with the regular amplifier in the phonograph or radio receiver, would provide the needed gain. Some listeners, particularly those whose reproducing equipment is not equipped with a tone control, may prefer to use this unit unequalized, in which case there will be a reduction of surface noise and sufficient output to give good volume with an average amplifier. Response without the equalizer, although not nearly as close to the ideal as with equalization, was good, and the voltage correspondingly greatly increased (9 times), with great reduction of output of the higher musical frequencies; these fell off seriously beginning at 3000 cycles. There was, to be sure, a corresponding reduction of record surface noise (which many users do not like to hear, even though in avoiding this they must sacrifice the overtones of musical instruments such as the oboe, tambourine, triangles, etc., which are necessary to give faithful reproduction). Distortion low—maximum of 1.5% second and 1.5% third harmonic at 300 cycles. Needle pressure desirably low, 1.1 oz.—on a par with GE. Voltage output, unequalized, 0.45 (moderate); equalized, 0.051 (would require preamplification for use with most phonograph amplifiers). Noise output (needle noise heard in loudspeaker) was found to be moderately high, due in part to extended response range. Direct needle noise low. Tracking error rather large—8.8 degrees maximum—but considered satisfactory since distortion was low. Quality of construction considered excellent. Pickup was equipped with fairly well protected jewel needle. Quality of bearings

### Key to Graphs in the Listings which Follow

**Frequency response of phonograph pickups. In some instances results include the effect of a preamplifier, equalizer, or both.**

**The horizontal scale represents frequencies in thousands of cycles per second, as indicated by the numbers along the bottom of the graphs.**

**The vertical scale gives output of pickup in db (as voltage ratio).**

- Output from the pickup with equalizer when one was used, and with associated preamplifier, when one was used.
- - - Output from the pickup without equalizer.
- . . . . Curve as supplied by manufacturer as representing the performance of his pickup.
- Output from the standard frequency record (Columbia 10003-M) as it would be given if played through an ideal pickup.

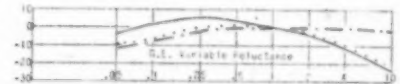
fair. Instructions received with pickup included equalizer circuits, and were considered adequate. **2 Caltron, Model 300-P** (Caltron Co., Los Angeles) \$17.50, with Model 400 preamplifier; pickup only, \$10.20. (Later price Model 300-P complete, \$19.50. Preamplifier, Model 402, said to be improved, now \$12.50.) Magnetic type. Frequency response of pickup and equalized preamplifier, moderately good. Had some bass boost, and response dropped off rapidly beyond 6000 cycles, but this type of reproduction is satisfactory to many; no doubt a good many will actually prefer it to true wide-range reproduction. Dis-



tortion low—maximum of 1% sec-

ond and 1% third harmonic at 300 cycles. Other harmonics absent. Needle pressure low, 1.36 oz. (maker claimed 1 oz.). Voltage output (with use of the preamplifier) 0.75 (moderate). Noise output satisfactorily low, direct needle noise moderate. Tracking error relatively small—4.5 degrees maximum. Quality of construction satisfactory. Vertical bearing good, horizontal bearing fair. Instructions received with pickup considered adequate. **2**

**General Electric Variable Reluctance** (General Electric Co., Schenectady, N. Y.) Magnetic type. At the present time sold only in conjunction with GE radios, such as the Model 326 discussed elsewhere in this issue. Unit tested was part of Seeburg automatic record changer,



and included a preamplifier. Frequency response good (had exceptionally smooth curve), but range would be considered restricted for the critical listener. Maker claims this degree of equalization chosen, after numerous tests, by majority of listeners whose preferences were studied, and no doubt "average listeners" do not care for wide-range response in listening to phonograph records and radio. Distortion very low—maximum of 1% second and 1% third harmonic at 100 cycles; distortion at other frequencies negligible. Amount of higher harmonics produced, negligible. Needle pressure 1.07 oz.—second lowest in test. Voltage output (including preamplifier) 0.54 volts (moderate); without preamplifier 0.01 (low). Noise output satisfactorily low, direct needle noise very low. Tracking error highest in test, 13.2 degrees maximum, but did not appear to be a cause of distortion. Quality of construction and bearings satisfactory. Jewel needle, exceptionally well protected. A knife edge was used for the horizontal bearing, and thus no oiling would be required.

## B. Intermediate

**Astatic, Model AB-8** (Astatic Corp.) \$11.15. Crystal type. Had restricted high frequency response and some bass boost when not equalized. With equalization, bass response was reduced, and higher frequencies somewhat increased; highs, however, fell off rapidly be-

ginning with 4000 cycles. Distortion was low, 1% second harmonic at most frequencies, reaching a maximum of 2½% at 200 cycles. Third harmonics had a maximum of



1% at 500 cycles, while the amounts of other harmonics produced were negligible. Needle pressure high—practically 3 oz. This pressure, together with the stiff needle assembly, would cause greater than average record wear and might thus warrant a C rating for this pickup when for use with fine recordings. Voltage output high—5 volts unequalized; 1.5 volts equalized. Noise output was low, direct needle noise high. Tracking error very low—2.1 degrees maximum—best in test, in that respect. Quality of construction good; crystal unit of rugged design, which should stand moderate abuse, and would tend to make pickup satisfactory for use by children. Vertical bearing satisfactory, horizontal bearing poor; horizontal cushioning system not good (rubber mountings improperly placed). Instructions inadequate, as they provided only mounting dimensions.

**1**  
**Shure, Model 93 AN** (Shure Bros., 225 W. Huron St., Chicago 10) \$8.60. Crystal type. Frequency response, without equalization, showed considerable "boost" in bass and middle register. High frequencies dropped off rapidly beyond 4000 cycles. Equalization specified



by manufacturer still further increased low frequency response, whereas an increase in the high frequencies was needed. Distortion was low—had maximum of 2.2% third harmonic at 300 cycles; second and higher harmonics were virtually absent. Needle pressure low, around 1.3 oz., but action of bearing was "sticky." Voltage output high—2.15 volts—exceptional for a low-pressure pickup. Noise output low, second best in test. Direct needle noise satisfactory. Tracking error small, 4.6 degrees maximum. Qual-

ity of construction satisfactory. Bearing quality fair. This pickup represented very good value, considering its low price and fairly low needle pressure.

**1**  
**Brush, Model PL-20** (Brush Development Co., 3405 Perkins Ave., Cleveland) \$45. Crystal type. Frequency response without equalization, fair. Had considerable "boost" in bass and middle register, but response dropped off rapidly at higher frequencies. Equalization recommended by maker flattened the response curve somewhat, but



high-end response still deficient. With proper equalization, pickup might have warranted a better rating. Total harmonic distortion low, amount of third and higher harmonics negligible. Second harmonics reached maximum of 3% at 300 cycles, elsewhere much lower. Needle pressure was desirably low—1.15 oz. Voltage output unequalized, 0.82 (moderate); equalized, 0.2 (should not require preamplifier). Noise output moderately high, direct needle noise very low. Average tracking error low; 4.9 degrees maximum. Quality of construction good; the pickup was ruggedly built and had excellent vertical and good horizontal bearings. Instructions provided adequate information.

**3**  
**Audax Microdyne, Model D-38-H** (Audak Co., 500 Fifth Ave., New York 18) \$29.95. Transformer (usually necessary for matching to amplifier), \$7.50 extra. Magnetic type. Frequency response similar to *Audax Pro-2L*; equalized response considered good, but had slight peaks or other irregularities. Without equalization, bass response was deficient, and the peak at about 6000 cycles was more noticeable. Distortion found to be rather high and to increase with needle wear. Second and third harmonics (maximum of 5.5%) appeared through range of



50 to 5000 cycles. Pickup arm showed tendency to resonate at 200

cycles—one reading gave maximum of 8% second harmonic at that point. Higher-order harmonics were generally absent except for 2% maximum at about 1000 cycles. Needle pressure fairly high, 1.8 oz. Voltage output (measured at output of transformer needed to match the pickup to most amplifiers) moderately low, 0.31 volts. With equalizer, voltage drops to about one-quarter of this value; this greatly lowered voltage would necessitate use of a preamplifier. Noise output low; direct needle noise fairly high. Tracking error was satisfactory, with maximum of 5.1 degrees. Quality of construction satisfactory, but bearings only fair. Instructions adequate, but presentation at greater length would have made for better understanding by the layman. No arm rest was provided with this pickup.

**3**  
**Audax Microdyne, Model Pro-2L** (Audak Co.) \$68.50. Transformer \$7.50 extra. Magnetic type. Fre-



quency response with equalization, very good; the slight peak at 7000 cycles should not be objectionable. Without equalization, bass response was deficient. Distortion was found to be fairly high and to increase with needle wear. With new needles, had second harmonic distortion of 3.5% at 1000 cycles, increasing to 6% at lower frequencies. Other harmonics were considerably lower, however. Needle pressure was fairly low, 1.52 oz. Voltage output (measured at output of transformer needed to match pickup to most amplifiers) moderately low, 0.25 volts. With equalizer, voltage dropped to about one-quarter this value; this lowered voltage would necessitate use of preamplifier. (See discussion of this problem in text and under *Astatic FP38*.) Noise output was found to be somewhat high, direct needle noise fairly low. Tracking error satisfactory, with maximum of 5.1 degrees. Quality of construction satisfactory, but bearings only fair. Instructions adequate, but presentation at greater length would have made for better understanding by the layman.

**3**  
**Zenith Cobra** (Zenith Radio Corp., 6001 Dickens Ave., Chicago 39)



At the present time sold only in conjunction with *Zenith* radios, such as *Model 12H090* listed elsewhere in this issue. For description of principles on which this pickup functions, see text of this article. Unit



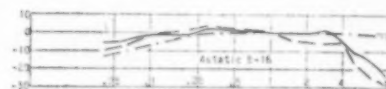
tested consisted of pickup and pre-amplifier, the latter being an essential part of the equipment. The frequency response of the pickup was only fair, as output dropped off rapidly above 4000 cycles. There was a small peak at this point due to resonance of the pickup arm, but the curve was smooth from 50 cycles up to 4000. Distortion desirably low, consisted of second and third harmonics of same magnitude, being less than 1% in the middle frequencies and rising to 3% at 50 cycles. Needle pressure lowest in test—only 0.6 to 0.7 oz. Voltage output (including preamplifier) 1.32 volts, desirably high. Noise output satis-

factorily low, direct needle noise very low. Tracking error among lowest in test—3 degrees maximum. Quality of construction satisfactory. Had well protected semi-permanent (metallic) needle which was an integral part of needle cartridge. The latter must therefore be replaced when needle requires changing, but because of the light needle pressure and high compliance (flexibility of the needle action) needle life should be long. Bearings not cushioned as in most other units tested, but cartridge was mounted on springs and felt. Slight stickiness noted in horizontal bearing of pickup arm.

### C. Not Recommended

*Astatic, Model B-16* (Astatic Corp.) \$25. Crystal type. Frequency response fair, but response dropped off in pronounced fashion above 4000 cycles. The equalizer effected only a small improvement. Distortion was fairly low, except for a resonance at about 300 cycles, where over 10% third harmonic was found. This resonance persisted to some degree down to 200 cycles. Second har-

monic distortion reached maximum of 2.5% at 1500 cycles. Higher order harmonics were also noted in the region from 500 to 70 cycles.



Needle pressure was found to be excessive, 3.5 oz. This pressure, together with stiffness of needle assembly, would cause relatively rapid record wear. Voltage output was high—3.8 volts without equalization. (Desirable for pickup which must be used with older reproducing equipment or equipment which has a relatively low amplification.) Noise output high, direct needle noise high. Tracking error was found to reach a maximum of 7.2 degrees (high) when mounted in accordance with maker's directions. This figure could have been reduced by proper instructions for mounting. Quality of construction, good; of bearings, good. Instructions considered somewhat sketchy.

2

## Men's Hats

**M**EN'S HATS, unlike the decorative pieces worn by women, do not significantly change in style, shape, or appearance from year to year. The quality of the simple headwear, however, that is worn by men has varied from year to year. This year the most evident change in characteristics has been an increase in wear resistance of the hat material as compared with samples of the same brands tested in 1945. While this may be due to an improvement in the materials used in manufacture, it would seem, in view of the present shortage in supplies of furs,

that it is more likely to be the result of the addition of some plastic resin as a binding agent to hold the fibers into position so that they develop their best strength and resistance to creasing and wear. This is an excellent method by which to increase the durability of hats, as demonstrated by the *Adam* hat, which was labeled as containing 25% Vinyon, a plastic resin; although this hat was only a wool felt rather than one made of rabbit fur, it had easily the best wear resistance of any sample tested.

The following ratings are based on "wear resistance" (re-

sistance of the felt to repeated flexing), water resistance when new and after dry cleaning, resistance to soiling, effects of dry cleaning, and fading.

All of the samples were found to be colorfast to water and with the exception of the *Lee* and *Mallory* were colorfast to dry cleaning. The *Lee* and *Mallory* hats were very slightly lighter in shade after dry cleaning.

The weights of the hats will be roughly proportional to the weights of the felts as given in the listings. For example, the *Adam* hat, the heaviest hat tested, will be about 40% heavier than the *Dobbs*, which had the lightest felt. Ratings are cr46.

# Comparison of Prices and Bend Endurance Cycles 1940-1946

	1940		1943		1945		1946	
Brand	Price	Cycles of Bending	Price	Cycles of Bending	Price	Cycles of Bending	Price	Cycles of Bending
<i>Adam</i>	\$2.95	293	\$5.00	168	Not tested		\$5.00	2533*
<i>Brent</i>	4.95	600	4.98	123	\$8.50	177	8.95	481
<i>Disney</i>	5.00	864	5.50	307	10.00	134	10.00	1041
<i>Dobbs</i>	5.00	1529	8.50	791	10.00	416	10.00	1506
<i>Lee</i>	5.00	659	5.00	209	7.50	224	7.50	755
<i>Mallory</i>	5.00	400	6.50	446	5.50	210	7.50	1441
<i>Pilgrim</i>	Not tested		4.96	450	Not tested		8.45	592
<i>Stetson</i>	5.00	1595	5.00	293	10.00	123	10.00	232

\* Not a conventional homogeneous felt (see discussion of this hat in listing).

## A. Recommended

*Mallory Cravenette*, No. 983210 (The Mallory Hat Co., Danbury, Conn.) \$7.50. A fairly stiff, blue-gray, unlined hat equipped with wind cord. Brim had fabric-bound edge. Lacked sweat stop. Weight of felt, 11.3 oz. per sq. yd. Felt of very good wear (flexing) resistance (only slightly below *Dobbs*). Resistance to water before dry cleaning, good; after dry cleaning, fair; to soiling, about average; to effects of dry cleaning, excellent. Appreciable lightening of shade in light-fading test, but somewhat less than *Lee*. (Fade-ometer—40 hours, equivalent to approximately 52 hours in June mid-day strong sunlight in the latitude of Washington, D. C.) 2

*Dobbs Fifth Avenue*, No. 12049 (Hat Corp. of America, South Norwalk, Conn.) \$10. A medium stiff, gray, unlined hat. Brim had edge turned and stitched down. Lacked sweat stop. Weight of felt, 11.1 oz. per sq. yd. Felt of very good wear resistance. The felt itself was judged to be the best in the group of hats tested. Resistance to water before and after dry cleaning, good. Slight lightening of shade in light-fading test. 3

## B. Intermediate

*Adam Five—Highway Plastitch* (Distributed by Adam Hat Stores Inc.) \$5. A stiff, brown, unlined hat

made of thick heavy felt, stitched in rows  $\frac{3}{8}$  in. apart. Top of hat is a separate inserted heart-shaped piece of felt, a type of construction which is designed to impart a fixed shape to the hat so that it does not require reshaping by the user from time to time when dented or deformed. Felt was a departure from the normal as it was made of wool 40%, reprocessed wool 35%, and Vinyon plastic yarns 25%; the plastic yarns ap-

peared to be concentrated in a central layer in the felt. Brim had raw edge with  $\frac{3}{8}$  inch felt facing stitched to upper surface. Sweat stop of narrow coated folded fabric sewn to imitation leather sweatband. Weight of felt, 15.4 oz. per sq. yd. Wear resistance easily the best of all samples tested. Resistance to water when new, good, but after dry cleaning, ornamental stitching was readily wetted. Resistance to



*Adam Five—Highway Plastitch*. At right is the center piece (see text) cut from another sample of the same brand and model.

soiling and dry cleaning, fair. This hat, as the picture shows, is a bit loud or "sporty" in appearance; some purchasers might find this undesirable, at least in a hat to be worn for somewhat formal purposes. Appreciable lightening in shade in light-fading test. **1**

*Brent Conformatic* (Montgomery Ward's Cat. No. 35—5555L) \$8.95, plus postage. A stiff, bluish-gray, lined hat equipped with wind cord. Brim had fabric-bound edge. Sweat stop of folded waterproof coated material sewn firmly to inside of leather sweatband. Weight of felt, 13.1 oz. per sq. yd. Wear resistance much below average. Resistance to water when new, good; after dry cleaning, poor. Resistance to soiling, poor; to effects of dry cleaning, good. Very slight lightening in shade in light-fading test. **2**

*Lee "Pants Pocket" Waterbloc, Santa Fe*, No. 16F4 (Frank H. Lee Co., Danbury, Conn.) \$7.50. A fairly stiff, tan, lined hat equipped with wind cord. Brim had fabric-bound edge. Sweat stop of narrow folded

waterproof coated material with strip of impregnated rayon  $1\frac{3}{4}$  in. high inserted in fold, all sewn firmly to inside of leather sweatband. Weight of felt, 12 oz. per sq. yd. Wear (flexing) resistance, below average. Resistance to water, soiling, and effects of dry cleaning, excellent. Appreciable lightening of shade in light-fading test. **2**

*Disney*, No. 8346 (Disney Inc., 358 Fifth Ave., New York 1) \$10. A stiff, gray, lined hat equipped with wind cord. Brim had fabric-bound edge. Sweat stop of narrow folded waterproof coated material sewn to inside of leather sweatband. Weight of felt, 14.7 oz. per sq. yd. Felt of above-average wear resistance. Resistance to water before and after dry cleaning, good; to soiling, poor. Slightly affected by dry cleaning. Slight lightening of shade in light-fading test. **3**

### C. Not Recommended

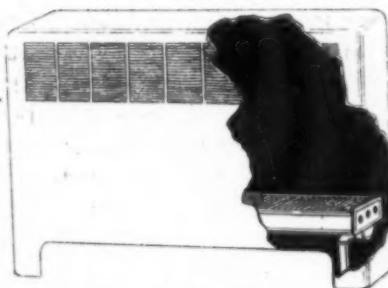
*Pilgrim* (Sears-Roebuck's Cat. No. 33—4472) \$8.45, plus postage. An

extremely stiff, gray, lined hat. Brim had fabric-bound edge. Crown lining covered with a transparent layer of plastic impregnated rayon. Sweat stop of narrow folded waterproof coated material sewn to inside of leather sweatband. Weight of felt, 14.4 oz. per sq. yd. Felt of below-average wear resistance. Resistance to water and dry cleaning, excellent; to soil, only moderate. Appreciable lightening of shade in light-fading test. **2**

*Royal Stetson Playboy*, No. G805305 (John B. Stetson, Philadelphia) \$10. A fairly stiff, tan, lined hat. Brim had raw edge. Sweat stop of folded waterproof coated material sewn to inside of leather sweatband. Weight of felt, 14.6 oz. per sq. yd. Felt of poor wear resistance (lowest of all samples tested). *Stetson* hats in 1943 and 1945 (\$5 and \$10 respectively) were found to be poor in wear resistance. Resistance to water, satisfactory; to soil, excellent. Unaffected by dry cleaning. Slight lightening of shade in light-fading test. **3**

## Notes on Today's Heating Equipment Problems

**D**URING THE WAR, we heard a great deal about radical changes in heating plants and equipment that were to be expected as results of wartime research and invention. (These have so far failed to make their appearance, and a person looking over the horizons of the heating field sees no indications that they will be available in the reasonably near future.) Most people would be willing to "settle" now, as the saying goes, for just ordinarily prompt delivery on a good pre-war-grade boiler or oil burner. A good many people are *not* willing to settle for coal-burning equipment, since there is a very definite trend away from coal to oil as fuel. This is no doubt due to the steady increases in prices for coal over the past



A convector cut away to show finned-tube heating element at bottom.

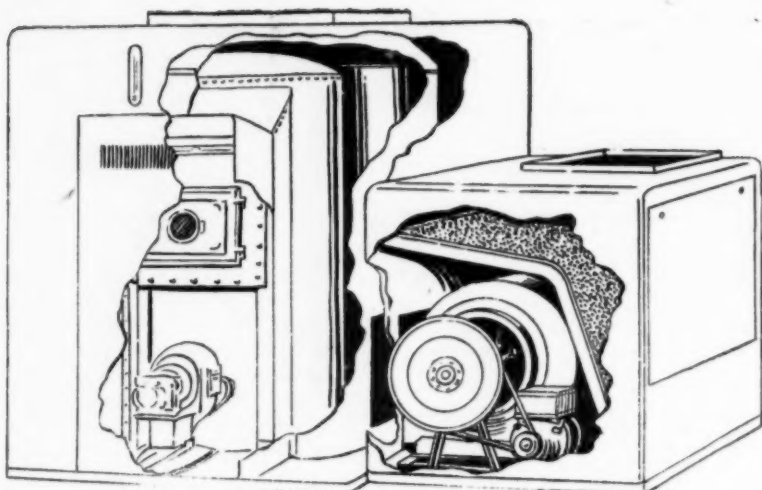
few years, and the difficulty and uncertainties in obtaining deliveries, due to strikes. So marked is this trend that deliveries of oil burners are from ten to twelve months behind orders, and a great many people are sure to be disappointed in trying to equip their

homes with a new heating plant.

We would advise those who can heat with their present system for this winter to plan to do just that, and they should, by all means, not tear out or disconnect anything until everything that is needed to replace it has been delivered to the job.

Some oil-burner units are out with a new jacket and some minor improvements, but the changes are not important and the overall efficiency of operation shows no improvement over the good types of steel oil-burner boiler using a gun-type burner. In fact, boilers designed around the standard gun-type burner by any of the old burner manufacturers such as Fitzgibbons, Kewanee, or





*Diagrammatic illustration of winter air conditioning apparatus. For summer air conditioning, cooling coils through which some refrigerating medium circulates are added. (Cold well water is sometimes used for this purpose.)*

Spencer, who have had several decades of boiler building experience and have learned the errors of design the hard way, will likely have a greater overall efficiency than modern boiler-burner units built without such experience. By overall efficiency, we mean not just the efficiency as shown by a laboratory test under highly artificial conditions, but the actual operating costs, including the cost of equipment, cost of fuel, cost of maintenance and of depreciation.

Stoker design has not been radically changed and stokers should give about the same performance as before the war.

Not only oil burners, but all heating equipment, such as boilers, radiators, convectors, circulators, and even pipe and fittings are extremely hard to get, and the supply will not be anywhere nearly equal to demand before next year, if then.

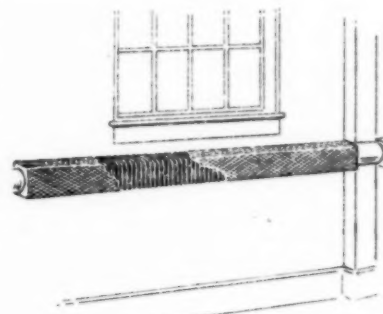
Interest continues in panel heating, which was discussed to the extent of five pages in the November 1945 BULLETIN,

and some equipment of this type is being installed. Anyone planning to use panel heat should see that the system is designed by a competent engineer to avoid the repetition of mistakes in design which have been discovered in existing systems. The design of panel heating is not as difficult as some of the formulas in the trade magazines would indicate, but purchasers of this type of heating installation will do well to bear in mind that there is not much chance to alter the system or correct faults of design after the piping is enclosed in concrete or plaster.

There is considerable difference of opinion as to whether floor or ceiling panels should be used, or whether wrought iron, steel, or copper is the preferable material. Either floor or ceiling panels have their proper place; the choice usually depends on the type of building or room to be heated, and the construction and use to which the room will be put. Small copper tubing, which may be fastened to the bottom of lath

and imbedded in the plaster, covered only with  $\frac{1}{4}$  inch of plaster, lends itself admirably to ceiling panels. Iron pipe would have to be placed on top of the lath and covered with plaster to form a bond to the plaster below to provide equal heating of the plaster panel. Either iron or copper piping may be placed in concrete floors for a floor panel. The difference in the coefficient of expansion of copper and iron has caused much controversy, but the total operating temperature range is seldom over  $100^{\circ}\text{F}$  and the difference in actual expansion of the two materials is so slight that coils of either metal have given no difficulty.

The finned pipe being made by many manufacturers for use as radiators is often employed to good advantage in certain types of industrial buildings. It is compact and takes up very little space. It is especially good for rooms with ceilings that are too low for the so-called unit heaters, or where



*Finned-pipe heating element (heating chiefly by convection currents).*

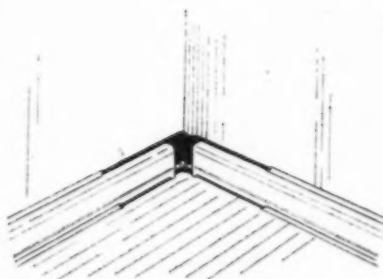
the blast of rapidly moving air from the unit heater (the type with a fan behind a finned radiator) is undesirable.

Baseboard radiators are

being advertised, but have not gotten into production. The heating trade is not very enthusiastic about this type of radiation, as yet.

Radiators and convectors have not changed in basic design; both are hard to get. Heating by the convector type unit is becoming increasingly popular. These do an excellent job if of proper size and properly installed, and are better adapted to interior decorating schemes than the old-style radiators. A convector is a heating unit so designed so as to transfer all of the heat into the room by flow of warm air, rather than part of the heat by radiation as with ordinary radiators. The convector, the part which supplies the heat to the air, is an arrangement of finned tubes having a large surface area, which are connected to the hot-water or steam system (see Figure 1). The unit, much smaller than a radiator for a corresponding duty, is located near the bottom of a cabinet or enclosure; into this the air enters at floor level and is heated as it passes over the unit, discharging into the room through outlets near the top of the cabinet.

Hot-water heat, due to its flexibility, more even heating,



#### Baseboard Radiators

*To eliminate streaking of walls from dust, with this type of radiator, building paper (shown in black) is fastened to the walls behind the radiators before installation, and this is topped by a molding. When complete, the union elbow is concealed by a corner plate matching the contour of the radiators.*

and less upkeep trouble, is being more widely used. Hot water, used with some type of modulated control in place of the "off and on" control, will eliminate the "cold 70" condition entirely. (This trouble with heating plants is discussed in CR's January 1944 BULLETIN. It results primarily from the long "off-period" before the thermostat again calls for heat, which permits the radiators to cool down to a point that permits a layer of cold air, at a temperature below that of the body, to be produced by contact of the air in the room with cold radiators, windows, walls, floors, etc. When this occurs,

the body begins to radiate heat to the cooler surfaces near by; this gives one the feeling of being cold, even though the air of the room may be at normal temperature of 68° or 70°F. A modulated control is one which instead of turning the heating plant or the flow of water completely on or off, adjusts the amount of the flow to smaller or larger flows to care for the need for heat at the moment.

There are large areas of the U.S. in which warm-air heating constitutes the predominant method of house heating. Forced warm air with "air conditioning" is very popular in certain areas, but this will not give satisfactory results until the modulated type of control is used with it, too; in this arrangement the fan operates continuously, and the temperature of the circulated air is varied to suit the rate of heat loss from the building at the time.

There is no easy solution to the home heating problem, but whenever a system of any size is to be installed, it should be carefully designed by a competent contractor or engineer to suit the particular building and the use to which the building is put.



STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933, of Consumers' Research Bulletin published monthly at Washington, New Jersey, for September 1945-September 1946—State of New Jersey, County of Warren ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared F. J. Schlink, who, having been duly sworn according to law, deposes and says that he is the editor of the Consumers' Research Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit: 1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Consumers' Research, Inc., Washington, New Jersey; Editor, F. J. Schlink, Washington, New Jersey. 2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Consumers' Research, Inc., a non-profit corporation, not a business enterprise, not operated for profit, Washington, New Jersey. Stock—none. 3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None. 4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. F. J. Schlink. Sworn to and subscribed before me this 26th day of September 1946 Marie M. Beers. (My commission expires May 14, 1951.)

# Five New Radio Receivers —Two Radio Phonographs

## Five Table Models

IN the final years of the war and immediately thereafter, consumers were told through expensive advertising campaigns that a great new "electronic" age was dawning in which certain new miracles of radio development—which were not defined, but only vaguely referred to—would become available to produce far-reaching improvements in the quality and performance of household receivers. So far as home radio is concerned, nothing of the sort has developed as yet and there is no likelihood of such developments appearing. It is true there were a limited number of wartime discoveries and technical advances that are capable of affecting radio receivers of types used by consumers, but for the most part these will involve shortcuts in processing or changes in tubes and parts the consumer does not see and of which he will as a rule be unaware. We repeat: there seems to be no likelihood of important improvements in quality or performance of sets, and indeed one would be justified in looking for *lower*-quality sets for the next few years than were made in the years just before the war. This is for the reason that, in a sellers' market, the radio manufacturer make sales easily without bothering to provide new inventions and unusual designs.

As CR pointed out in the articles on table-model radios in the April and August 1946

BULLETINS, inferior workmanship and materials—and a flood of "off brands"—are to be expected, for some time to come. Most consumers are painfully aware of the shortages in the appliance field, even with respect to such relatively simple items as electric irons and toasters. It can easily be imagined, therefore, how great are the difficulties presented to manufacturers in the production of such complex articles as radio receivers, which involve hundreds of parts, which may come from a score of different suppliers. Shortages of vital metals and alloys, plastics, dies, and radio tubes have plagued the industry. Even wooden cabinets are hard to get, due to the demands of the furniture manufacturers and the tremendous need for wood for building homes. Add to this the shortages of skilled engineering services and workmen available for the highly technical work involved in the design of sets and the making of basic tools and equipment for building them in mass production, toss in a liberal sprinkling of strikes, OPA regulations, limited factory space, and production line conversions, and the resultant confusion is so great it is a wonder we have sets at all, not to mention first-class products. Moreover, many new concerns are attempting to break into the radio field or to reap quick profits from the easy sale of shoddy merchandise, so that for many consumers, the purchase of a new radio at this

time is to be avoided if practicable. The wise buyer will find it only a reasonable precaution to follow CR's recommendations as nearly as may be convenient, in making a purchase.

Table-model radios as a class are generally much inferior in performance to console-model receivers. This is partly due to the lower prices and partly to the physical size of the set. The small size involved necessitates a small speaker and speaker "baffle" or enclosure, and as engineers and physicists are well aware, this precludes good reproduction of the lower musical register. This is true no matter what the sales literature or the salesmen tell you. Thus table-model sets *cannot* reproduce music satisfactorily, because of the deficient bass reproduction, and as a balanced and pleasing response requires that some of the "top register" be taken off when most of the lower register is missing, the sets will necessarily have a pretty limited acoustic range, unsatisfactory to persons of good musical sense. (However, for the uncritical listener, they may sound well enough for ordinary music and for speech.) It is important to note, however, that in respect to sensitivity (ability to pick up weak stations) and selectivity (ability to separate stations without interference), the table model can be made to perform as well as the console.

All of the small sets in the present report with one excep-



tion were of the ac-dc type—i.e., were intended for use on either alternating or direct current. This type of set is always inferior in performance to straight a-c sets, and is very likely to be hazardous in that one side of the power line may be connected more or less directly to the metal chassis of the receiver. For this reason an ac-dc set should never be purchased, especially for use by children, unless it bears the Underwriters' Laboratories' label. While the Underwriters' label does not assure safety (as tests reported in CR's BULLETINS on numerous appliances have indicated) it does give some needed degree of assurance that measures have been taken to *reduce* the danger from electric shock inherent in these sets. In CR's test a number of receivers without the Underwriters' Laboratories' label were tested, and found to have serious shock hazard. Identical sets, except for having this fault removed or greatly reduced, are made available by the manufacturer in cities where safety standards are regulated by law (require, for example, that appliances cannot be sold unless they meet the Underwriters' safety specifications). The sets made for sale in such cities will be found to carry the Underwriters' label or its UL symbol.

It is interesting to note that most of the table-model sets tested so far have no facilities for short-wave reception. Although probably the result of present-day shortages, this omission is in line with CR's recommendation of past years. Where prices must be kept down, it is better in our opinion to omit the short-wave features entirely rather than to produce an inferior set with a poorly

operating short-wave section. Moreover it has been generally observed that most listeners use the short-wave bands very little, even in sets of good performance.

All of the sets covered by this report used the superheterodyne circuit, with only minor deviations from the conventional design. Tone controls, which are useful to cut off the "top" when atmospheric noises or static are troublesome, as is sometimes the case (and very often so, in regions that are far from a city providing a selection of good broadcasting stations) were mostly omitted, and on the whole the sensitivity and selectivity of the sets were only fair. Residual noise levels (hum, etc.) were found to be low, unless otherwise noted in the listings. All sets had self-contained loop antennas, except for the *Silvertone*, which used a "hank" antenna of wire normally wrapped on the back of the set to form a type of loop.

#### A. Recommended

*Westinghouse "Little Jewel,"* Model H126 (Westinghouse Electric Corp., 246 E. 4th Ave., Mansfield, Ohio) \$32.95, Zone 1; \$34.60, Zone 2. 6 tubes. Had "modernistic" cabinet using metal frame to which were secured plastic sides. Had convenient carrying handle. Parts and workmanship satisfactory; ease of servicing somewhat below average. Sensitivity and selectivity fair, although judged adequate for reception of local stations in difficult areas such as New York or Chicago. Some code interference or other "spurious responses" noted. Approximate audio (musical) range, 100 to 5200 cycles—good for table-model set. Acoustic quality judged exceptional for small receiver. Audio output at 10% distortion, 0.9 watts when measured at standard frequency of 400 cycles. This relatively good output held up well over entire range, being 0.56 watts at 50 cycles, a very good value

for a table model. Electrical safety judged adequate—no shock hazard found. Had Underwriters' Laboratories' label. 3

#### B. Intermediate

*Sears Commentator* (Sears-Roebuck's Cat. No. 7025) \$17.20, Zone 1; \$18.05, Zone 2. 5 tubes. Had plastic cabinet. Parts, workmanship, and ease of servicing all considered good. Sensitivity and selectivity fair. Approximate audio range 170 to 3300 cycles (fair). Acoustic quality judged fair. Output at 10% distortion, 1.26 watts (good). From an electrical safety standpoint, not considered desirable for use by children, as there was a leakage current of 9.5 milliamperes. Bore Underwriters' label. Heaters or filaments of some tubes in this set were supplied with a voltage somewhat higher than normal, which would tend to shorten tube life. 1

*Bendix, Model 0526* (Bendix Radio Div., Bendix Aviation Corp., Baltimore 4) \$24.20, Zone 1. 5 tubes. Plastic cabinet. Parts, workmanship, average quality; ease of servicing good. Sensitivity and selectivity fair—no spurious responses noted. Approximate audio range, 150 to 3400 cycles (fair). Acoustic quality about average. Audio output at 10% distortion, 1.4 watts, very good for table model. Electrical safety not considered adequate to make the set desirable for use by children (5 milliamperes of leakage current as measured from chassis to ground, about 25 times the leakage that might be considered safe under rigorous standards). Bore Underwriters' label. This set, it is believed, would warrant a C rating if for use in a kitchen or bathroom or in a household where there are young children. 2

*Airline, Model 64WG—1804A* (Montgomery Ward & Co.) \$29.95. 6 tubes. Wood cabinet. Parts generally good, workmanship average, ease of servicing fair. Sensitivity good, selectivity fair—some spurious responses but these were not of sufficient intensity to interfere with local reception. Approximate audio range, 160 to 5000 cycles (good, for a table-model receiver). Two sets of this model were tested. In one case acoustic quality was judged poor, apparently due to a defect of the speaker. The second sample was considered to have very good acous-

tic quality. It is recommended that consumers try the receiver at fairly high volume, listening for distortion of a rasping quality (not the familiar and ordinary distortion due to playing the radio too loud) on heavy bass notes; this defect should not be present. Audio output at 10% distortion, 0.85 watts (fair). The receiver was not electrically safe, particularly if for the use of children, as there was leakage of 11 milliamperes from chassis to ground. Bore Underwriters' label. (See comments on electrical safety under *Bendix*, Model 0526—these comments apply equally to the *Airline*, Model 64WG—1804A.) 2

*Packard-Bell*, Model 651 (Packard-Bell, Los Angeles) \$42.05. 6 tubes. Had wooden cabinet with very good finish. This set is a make which is very well known on the West Coast; its dial was marked with the call letters of West Coast stations, which would make it relatively unsuitable for use elsewhere. Had facilities for short-wave reception, but performance of this feature was not good. Quality of parts good, of workmanship very good. Ease of servicing average. Sensitivity on broadcast band good, on short-wave band poor. Selectivity fair, some spurious responses (code interference, etc.) noted. Approximate audio (acoustical) range, 140 to

3400 cycles (fair). Acoustic quality judged good for table model but would have been improved by better cabinet design. Audio output at 10% distortion, 0.5 watt. Electrical safety judged adequate—no shock hazard found. Had Underwriters' label, and was designed for use on alternating current only (desirable). 3

## Two Radio-Phonograph Combinations

### B. Intermediate

*General Electric*, Model 326 (General Electric Co., Bridgeport, Conn.) \$197.90. 6-tube superheterodyne, with one additional tube in phonograph preamplifier. Very well made cabinet of "period" design. Acoustic quality on listening test judged good, but the bass was somewhat distorted. Electrical safety adequate. Bore Underwriters' label. ¶Phonograph section of the unit used *Seeburg* automatic record changer, and the *GE* "Variable Reluctance" pickup reported elsewhere in this Bulletin (the *Seeburg* changer takes either 10-inch or 12-inch records, but not mixed sizes). Reproduction of records judged satisfactory, but some lack of treble response was evident. (See discussion of performance of this pickup under Phonograph Pickups.) 2

*Zenith*, Model 12H090 (*Zenith Radio Corp.*, 6001 Dickens Ave., Chicago 39) List price, \$288. Superheterodyne with 12 tubes, including rectifier and tuning eye tubes. Loop antenna, and provision for external antenna. Unit includes FM and AM tuners, power supply, amplifier, phonograph preamplifier. Quality of reproduction on FM far superior to that on AM. Performance judged not good, if price is considered and if compared with pre-war receivers; however, the set would be rated favorably if considered solely on the basis of today's production of radio receivers in its price class. ¶Record-changer apparently well built; pickup with exceptionally low needle-pressure, 0.6 to 0.7 oz. (desirable, as tending greatly to reduce wear on records and for other reasons). Semi-permanent (metallic) needle. See p. 17 for performance of pickup. 3

\* \* \*

Additional information on radio receivers including *C* listings of table models, an *A-Recommended* ac-dc battery portable, and fuller details of radio-phonograph combinations will appear in our next issue.

## Off the Editor's Chest

[Continued from page 2]

great influence on governmental policies and noted as a champion of the "rights of labor," wrote not long ago that "the control of our economic system [is] in the hands of the government, where it can be administered in the interests of the people as a whole." Consumers must have been puzzled at times to know why the activities of unions carrying on strikes that cripple essential services were not criticized by the government officials, who have so often spoken of their devotion to the public welfare and who have been very ready to criticize encroachments on the public inter-

est by business interests; and indeed consumers might have expected unflinching government support of *their* rights as against those of any and all self-interested groups managing or working in producing or distributing trades and in industry.

By no stretch of the imagination is it "in the interests of the people as a whole" that the Nation's coal supply should be shut off, that express shipments of scarce foodstuffs should stop and that needed foodstuffs be allowed in many cases to spoil or be damaged by delay, that factories should be closed and thousands of work-

men left jobless for lack of truck or elevator service or materials and parts to work on, or that a whole metropolitan region should have its electrical power or its gas or water or trolley and bus services interrupted for days at a time.

There has been much talk about the wickedness of manufacturers and merchants charging too much for their goods and services, as tending to cause inflation, but when it came to the question of increased wages as a factor in the inflationary spiral, a good many public officials not only did not object to new wage demands, but actually encouraged union leader-

ship to demand substantial wage increases; yet everyone of intelligence knew these, if granted, *must* produce price increases. (The wage rises—which were allegedly to come out of distribution costs, or profits, or something—did, of course, occasion large and numerous price rises for all sorts of commodities.) Monopolistic control and the misuse of power by a small group of strategically placed individuals to further their own interests at the expense of the many millions of U.S. consumers are not in the public interest, no matter what is the nature of the interest that group represents, whether a business, a profession, a craft or industrial union, or a trade association. No government which tolerates such practices on the large scale which they have been allowed to assume in the past several years can even pretend to be a government of the people, by the people, and for the people. It becomes rather a government of privileged groups, by such groups, and for such groups, and its structure and behavior tend to become more and more like those of a totalitarian state.

Practices of that sort as carried out by big business, the public utility lobbies, trade association officials that were too big for their breeches, oversmart lawyers and accountants pulling wires for powerful corporations, were the subject of sharp analysis and determined exposure by very vocal liberal and radical critics for several decades. Anyone with a reasonably clear memory of the chief topics of left-wing and liberal critical writing and talking of the 20's and 30's will recall the obloquy visited upon those in the utility and other big industries who counseled their lobbyists, in the classic phrase, "Don't be afraid of the expense. The public pays."

Sooner or later the public gets to a state of mind when it can and will no longer pay, and it will cut back to size any group or interest which thinks that it can operate with no concern at all for the pub-

lic welfare. As CR once wrote to a public utility official who protested what he referred to as CR's "tirades" against the "power trust" back in the days when the power interests were riding high and thought they could easily slap down all who ventured to criticize them: "From the consumer's standpoint there is no substitute for corporate honesty, fairness and competence, and all three should be found together." The same comment may be applied with equal fairness to the present leadership of labor unions. As one newspaper put it, rather more mildly than the actual situation at the time justified, "When a small group of workers in key positions—for example, the elevator operators in New York, or the subway trainmen—can throw an entire large city into turmoil, as the elevator operators . . . did, some kind of reform in our labor-employer setup is called for."

Labor's productivity, the factor comparable to management's competence already referred to, is far below that of pre-war years, and this of course unfailingly increases the cost of making a particular item, which in turn increases the price the consumer must pay. In the field of automobiles, for example, an executive of General Motors reported that in 1941 his company employed 265,000 workers and turned out 55,000 cars a week; but in 1946, with 20 percent more workers, General Motors was turning out only 25,460 cars a week. A little exercise with a paper and pencil or a slide rule will show what that means in terms of direct labor time per car, namely, an increase to two and a half times, or a 150% rise—which, along with the wage increases that have been won by labors' demands enforced by strikes, quite obviously must come out of what the consumer pays when he buys a new car. (It will even be reflected in the price of secondhand cars which were built many years ago, for the market for used cars naturally rises along with that of new ones.) In a period of about nine months,

in 1946, General Motors' workers produced 412,000 passenger cars compared with over three times that many, or 1,400,000, in the same period of 1941. Other companies report that a similar situation exists in their fields. The net result is higher prices, for as one columnist pointed out, "Profits, prices, and wages all hinge on productivity, and automobiles could cost twice their 1942 prices at no wage increase at all if slowdowns and quotas and contract violations reduce productivity."

It has long been CR's belief that many consumers, given an income above subsistence level, will as a practical matter achieve better results by learning how to get more for their money than by continually striving to get more income. Never was this truer than in the present situation, for as Mark Sullivan so ably put it: "Thoughtful persons who lived through the boom and depression, who were close to the inner mechanism of it, and who have studied it carefully since, have a view which may be stated thus: Had labor and industry taken less of the fruits of prosperity, had they allowed more to go to consumers in the form of lower cost of goods, the boom would not have gone so high and the depression would have been less, or might even have been avoided entirely."

Industry "learned the hard way" by being the first to receive the full effect of severe public displeasure over poor and discourteous service, and frequent exploitation of opportunities to increase charges or reduce values. The public protested effectively against excessive profits, and against tricky financial manipulations intended to conceal the underlying truth about production and profits.

Politicians have capitalized on this state of mind to the greatest possible extent, and there will come a time when politicians will find it expedient to subject organized labor and other special-interest groups that take advantage of the consumer's wish to remain unorganized and to conduct



his own affairs in his own way, to the same harsh discipline. Consumers are not organized as pressure groups, and quite likely will not be organized in that fashion; they do not have any wish to dictate any particular course or courses of action, and yet sooner or later they find their own way of breaking anyone or any group

which carries on its operations in a tough, racketeering, unfair, or unjust fashion, or prevents their being served with reasonable effectiveness, so as to benefit from the inherently efficient American system of mass production and big-scale distribution. Consumers are particularly likely to express in forceful and effective ways

their displeasure with those who, not content with failing to work themselves, determine that others not even remotely connected with their controversies shall also not be permitted to work and earn their living and produce the things which all of us need for safe, economical, and comfortable living.

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Shampoo, cream†	Apr., 30
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Superfatted Basis†	Mar., 38
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Toasters, non-automatic†	July, 5-8
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War commodities, surplus, sale	Oct., 4
Washer, portable†	Aug., 14-15
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Water softeners†	Mar., 30-33; Sept., 11, 15
Waterproofing walls (Aquala)†	May, 20-22
Wax, self-polishing floor (Simoniz)†	Oct., 30
Waxed paper†	July, 23-24
Weed control†	Aug., 22-24
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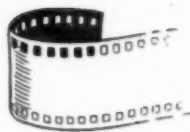
†Indicates that listings of names or brands are included.

**T**HE Aquatron (Kruse System, Inc., Indianapolis) is a water purifier, so-called, which operates by electricity. Priced at \$37.50 (reasonable value, under \$5), it consisted of a glass gallon jar or jug with a screw top carrying two aluminum electrodes. To use the Aquatron, the jar is filled with the water to be treated and the electrodes then connected to the house current. This process was asserted by a salesman to take care of the contamination of the water due to various causes; he mentioned particularly the dan-

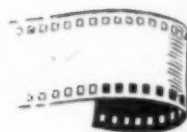
## The Aquatron "Water Purifier"

gers from bodies of persons committing suicide and animals that fall into the stream. The white particles produced by the action of the current through the aluminum electrodes were alleged to be the impurities removed from the water. Actual tests by the Indiana State Board of Health indicated that a city water sample was scarcely changed either bac-

teriologically or chemically; that a grossly polluted water sample was improved bacteriologically but not rendered sterile, and was certainly not safe for drinking purposes after treatment. The device was very objectionable from the consumer's standpoint because it did not, as claimed, purify impure drinking water to an extent that would make it safe for drinking purposes. We are indebted for the above information to the Oct. 1945 Journal of the American Water Works Association.



# Ratings of Motion Pictures



**T**HIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Chicago Daily Tribune, The Christian Century, Cue, Daily News (N.Y.), The Exhibitor, Harrison's Reports, Mademoiselle, Motion Picture Herald, National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time, Variety (weekly), and Unbiased Opinions of Current Motion Pictures which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure	hist—founded on historical incident
biog—biography	mel—melodrama
c—in color (Technicolor, Cinecolor, or Magnacolor)	mus—musical
car—cartoon	mys—mystery
com—comedy	nov—dramatization of a novel
cri—crime and capture of criminals	rom—romance
doc—documentary	soc—social-problem drama
dr—drama	trav—travelogue
fan—fantasy	war—dealing with the lives of people in wartime
	wes—western

A	B	C			
—	—	3	Accomplice	cri-mel	A
—	1	2	Alias Billy the Kid	wes	AYC
—	3	2	Angel on My Shoulder	fan	A
9	7	—	Anna and the King of Siam	dr	A
—	4	4	Avalanche	cri-mel	AYC
—	5	3	Bachelor's Daughters, The	mus-com	A
1	7	3	Badman's Territory	wes	AYC
—	4	5	Bamboo Blonde, The	mus-war-rom	A
—	4	5	Bedlam	dr	A
—	3	3	Behind the Mask	cri-mel	A
—	2	3	Below the Deadline	mel	A
—	2	2	Beware	mus-com	A
1	8	4	Big Sleep, The	cri-mel	A
—	7	5	Black Angel	mus-mel	A
—	6	4	Black Beauty	dr	YC
—	4	6	Blonde Alibi	cri-com	A
—	1	5	Blonde for a Day	mys	A
—	2	3	Blondie Knows Best	com	AYC
—	3	3	Blondie's Lucky Day	com	AYC
—	2	1	Blue Sierra	dr-c	AYC
1	6	1	Blue Skies	mus-biog-c	A
—	2	2	Border Bandits	wes	AYC
—	3	3	Bowery Bombshell	mel	AYC
1	6	5	Boys' Ranch	dr	AYC
—	6	10	Bride Wore Boots, The	com	A
3	9	—	Brief Encounter	dr	A
4	11	3	Caesar and Cleopatra	dr-c	A
2	10	3	Canyon Passage	wes-c	A
—	1	5	Caravan Trail, The	mus-wes-c	AYC
—	5	5	Cat Creeps, The	cri-mel	A
1	10	5	Centennial Summer	mus-com-c	A
2	7	3	Claudia and David	com	AYC
1	5	1	Cloak and Dagger	war-mel	A
3	10	2	Cluny Brown	com	A
—	6	—	Cockeyed Miracle, The	fan	A
—	3	3	Colorado Serenade	mus-wes-c	AYC
—	3	—	Conquest of Cheyenne	wes	AYC
2	7	1	Courage of Lassie	dr-c	AYC
—	2	2	Cowboy Blues	mus-wes	AYC
—	9	4	Crack-Up	cri-mel	A
—	—	3	Crime Doctor's Manhunt	mys-mel	A
—	1	2	Crime of the Century	cri-mel	A
—	5	2	Criminal Court	mus-cri-dr	A
—	1	3	Cross My Heart	cri-mel	A
—	2	6	Cuban Pete	mus-com	AYC
—	4	5	Danger Woman	mel	A
—	2	5	Dangerous Business	cri-mel	AYC
—	3	4	Dark Alibi	mys-mel	AYC
1	10	4	Dark Corner, The	cri-mel	A
—	5	5	Dark Horse, The	com	AYC
—	8	1	Days and Nights	war-nov	A
—	11	4	Dead of Night	mys-mel	A
—	1	8	Deadline for Murder	cri-mel	A
—	2	1	Decoy	mel	A
—	3	2	Desert Horseman, The	mus-wes	AYC
—	3	3	Devil Bat's Daughter	mys-mel	A
—	2	6	Devil's Mask, The	mys-mel	AY
—	4	—	Devil's Playground, The	wes	AYC
—	9	5	Devotion	biog-dr	AYC
—	5	3	Ding Dong Williams	mus-com	AYC
—	10	3	Do You Love Me?	mus-com-c	AY
—	3	7	Don't Gamble with Strangers	mys-mel	A
—	4	4	Down Missouri Way	mus-com	AYC
—	7	4	Dressed to Kill	mys-mel	AYC
—	7	3	Earl Carroll Sketchbook	mus-com	A
1	11	3	Easy to Wed	mus-com-c	A
—	5	2	Faithful in My Fashion	rom	A
—	4	7	Falcon's Alibi, The	mus-cri-mel	A
—	2	4	Freddy Steps Out	mus-com	AY
—	3	5	French Key, The	mys-mel	A
—	1	2	Frenzy	mys-mel	A
—	6	2	G.I. War Brides	dr	A
—	4	1	Gallant Bess	war-dr-c	AYC
—	2	4	Gallant Journey	dr	A
—	4	2	Galloping Thunder	mus-wes	A
—	5	2	Gay Blades	com	AYC
—	2	2	Gay Cavalier, The	mus-wes	AYC
—	1	3	Gay Intruders, The	war-nov	AYC
—	7	—	Genius at Work	mys-com	A
—	3	—	Gentleman Joe Palooka	com	A
—	3	7	Gentleman Misbehaves, The	mus-com	A
—	4	—	Gentlemen with Guns	wes	AYC
—	1	4	Ghost of Hidden Valley	wes	AYC
—	7	10	Gilda	mus-cri-mel	A
—	2	7	Glass Alibi, The	cri-mel	A
—	2	2	God's Country	mel-c	AYC
—	4	4	Great Day	war-dr	AYC
4	11	2	Green Years, The	nov	AY
—	1	3	Gun Town	mus-wes	A
—	3	1	Gunning for Vengeance	wes	AYC
—	2	2	Haunted Mine, The	wes	AYC
—	1	3	Heading West	wes	AYC
1	7	6	Heartbeat	com	A
—	2	2	Hello Moscow	mus-com	A
12	2	2	Henry V	dr-c	A
—	7	2	Her Adventurous Night	com	A

A	B	C		
—	5	10	Her Kind of Man.....	mus-cri-mel A
—	5	1	Her Sister's Secret.....	war-dr A
—	2	3	High School Hero.....	mus-com AY
—	3	9	Holiday in Mexico.....	mus-com-c AYC
—	3	3	Home on the Range.....	mus-wes-c AYC
—	7	3	Home Sweet Homicide.....	mys-mel A
2	1	—	Hymn of the Nations.....	mus-doc AYC
—	3	6	If I'm Lucky.....	mus-com A
—	2	4	In Fast Company.....	mel AYC
—	12	2	In Old Sacramento.....	mus-wes AYC
—	—	5	Inner Circle, The.....	cri-mel A
—	5	6	Inside Job.....	cri-mel A
—	6	6	Invisible Informer.....	cri-mel A
—	10	2	It Shouldn't Happen to a Dog.....	com AYC
—	1	3	It's Great to be Young.....	mus-com AY
2	4	6	I've Always Loved You.....	mus-dr-c A
—	4	10	Janie Gets Married.....	com AY
—	6	4	Joe Palooka, Champ.....	com AYC
—	6	4	Johnny Comes Flying Home.....	war-dr AYC
2	1	—	Jolson Story, The.....	mus-biog-c AY
—	5	4	Junior Prom.....	mus-com YC
—	7	2	Just Before the Dawn.....	cri-mys A
1	13	1	Kid from Brooklyn, The.....	mus-com-c AY
2	12	—	Killers, The.....	cri-mel A
—	7	3	Lady Luck.....	com A
—	—	3	Landrush.....	mus-wes AYC
—	1	6	Larceny in Her Heart.....	mys-mel AYC
—	2	6	Last Crooked Mile, The.....	cri-mel A
—	7	4	Little Giant.....	com A
—	1	3	Little Iodine.....	com A
—	4	2	Little Miss Big.....	dr AYC
1	4	5	Little Mr. Jim.....	dr A
—	5	8	Lover Come Back.....	com A
7	9	1	Make Mine Music.....	mus-car AYC
1	4	—	Man from Rainbow Valley.....	mus-wes-c AYC
—	6	1	Man Who Dared, The.....	cri-mel A
1	12	2	Monsieur Beaucaire.....	mus-com A
—	4	9	Mr. Ace.....	dr A
2	4	1	My Pal Trigger.....	mus-wes AYC
—	6	3	Mysterious Intruder.....	cri-mel A
—	3	—	Navajo Trail, The.....	wes AYC
2	13	2	Night and Day.....	mus-biog-c A
—	3	4	Night Editor.....	cri-mel A
1	13	4	Night in Casablanca, A.....	com A
1	7	9	Night in Paradise.....	fan-c A
—	1	4	Night Train to Memphis.....	mus-mel A
—	5	1	No Leave, No Love.....	mus-com AY
—	1	2	Nobody Lives Forever.....	cri-mel A
8	8	—	Notorious.....	mys-mel A
—	1	2	Notorious Gentleman.....	war-dr A
—	11	4	O.S.S.....	war-mel A
—	5	9	Of Human Bondage.....	dr A
—	3	4	One Exciting Week.....	mus-com A
—	5	7	One More Tomorrow.....	dr A
—	1	3	Overland Riders.....	wes AYC
—	3	5	Pasakey to Danger.....	cri-mel A
—	5	4	Perilous Holiday.....	mus-com A
—	3	5	Personality Kid.....	com AYC
—	—	5	Phantom Thief, The.....	cri-mel A
—	9	1	Portrait of a Woman.....	dr A
—	3	4	Postmaster's Daughter, The.....	nov A
—	—	5	Prairie Badmen.....	mus-wes AYC
—	1	2	Prairie Rustlers.....	wes AYC
—	4	5	Queen of Burlesque.....	mus-mel A
—	6	1	Rainbow Over Texas.....	mus-wes AYC
—	5	3	Rendezvous 24.....	mys-mel AYC
—	9	1	Rendezvous with Annie.....	war-com A
—	10	3	Renegades.....	mel-c A
—	2	4	Resistance.....	war-mel A
—	4	3	Return of Rusty.....	mel AYC
—	2	1	Roll On Texas Moon.....	mus-wes AYC
—	8	4	Runaround, The.....	com AY

A	B	C		
—	5	10	Scandal in Paris, A.....	cri-mel A
1	6	9	Searching Wind, The.....	war-dr A
—	1	4	Secrets of a Sorority Girl.....	cri-dr A
—	4	4	Shadow of a Woman.....	cri-mys A
—	1	2	Shadows Over Chinatown.....	mys-mel AYC
—	11	3	She Wrote the Book.....	com A
—	3	—	Sheriff of Redwood Valley.....	wes AYC
—	3	8	She-Wolf of London.....	mys-mel A
—	7	—	Show-Off, The.....	com AYC
—	—	6	Sing While You Dance.....	mus-com AYC
—	4	3	Sirocco.....	dr A
3	7	1	Sister Kenny.....	biog AYC
—	2	5	Slightly Scandalous.....	mus-com AY
3	12	1	Smoky.....	mus-dr-c AYC
—	2	3	So Dark the Night.....	mel A
—	13	4	So Goes My Love.....	com AYC
—	11	2	Somewhere in the Night.....	cri-mel A
—	4	3	Song of Arizona.....	mus-wes AYC
—	1	3	Song of Mexico.....	mus-dr A
—	—	3	Song of Old Wyoming.....	mus-wes-c AYC
—	1	3	South of Monterey.....	mus-wes AYC
1	3	9	Specter of the Rose.....	dr A
—	1	4	Spook Busters.....	com AY
—	—	4	Stagecoach Outlaws.....	wes AYC
—	3	5	Step by Step.....	war-mel A
—	11	5	Stolen Life, A.....	dr A
—	9	2	Stormy Waters.....	dr A
—	2	8	Strange Confession.....	cri-mys A
—	3	5	Strange Conquest.....	dr A
—	—	4	Strange Journey.....	mel A
—	10	5	Strange Love of Martha Ivers, The.....	cri-mel A
—	2	3	Strange Mr. Gregory, The.....	cri-mel A
—	3	7	Strange Triangle.....	cri-mel A
—	3	4	Strange Voyage.....	adv A
4	9	3	Stranger, The.....	war-mel A
—	6	—	Sun Valley Cyclone.....	wes AYC
—	3	6	Sunset Pass.....	wes AYC
2	9	6	Suspense.....	mus-dr A
—	2	7	Swamp Fire.....	mel AYC
—	2	7	Talk About a Lady.....	mus-com A
—	3	11	Tangier.....	war-mus-mel A
—	2	8	Ten Cents a Dance.....	mus-com A
—	—	4	Terrors on Horseback.....	wes AYC
—	2	2	That Texas Jamboree.....	mus-mel AYC
—	9	9	They Were Sisters.....	dr A
—	6	1	Three Little Girls in Blue.....	mus-com-c AY
—	1	6	Three Wise Fools.....	com AYC
—	7	6	Thrill of Brazil, The.....	mus-com A
—	3	3	Thunder Town.....	wes AYC
2	8	6	Till the End of Time.....	dr A
1	5	1	Time of Their Lives, The.....	com AYC
3	10	2	To Each His Own.....	war-dr A
—	1	3	Traffic in Crime.....	mel A
—	2	1	Trail of Kit Carson.....	wes AYC
—	—	3	Trouble Chasers.....	com A
—	2	11	Truth About Murder, The.....	mel A
—	9	2	Two Guys from Milwaukee.....	com AYC
4	10	3	Two Sisters from Boston.....	mus-com A
—	4	5	Two Smart People.....	cri-mel A
—	7	3	Two Years Before the Mast.....	adv AYC
—	3	2	Two-Fisted Stranger.....	wes AYC
—	3	2	Under Arizona Skies.....	mus-wes AYC
—	4	1	Under Nevada Skies.....	mus-wes AYC
—	3	4	Undercover Woman, The.....	cri-mel A
—	2	6	Unknown, The.....	mys A
—	1	8	Valley of the Zombies.....	cri-mel A
—	8	1	Walls Came Tumbling Down, The.....	mys-mel AY
—	3	—	Welldigger's Daughter, The.....	dr A
—	—	5	West of the Alamo.....	mus-wes AYC
—	1	3	White Tie and Tails.....	com A
—	3	—	Wicked Lady, The.....	dr A
—	1	5	Wild Beauty.....	dr AYC
—	—	5	Without Dowry.....	dr A
—	9	3	Without Reservations.....	com A
—	—	3	Youth Aflame.....	dr A



# The Consumers' Observation Post

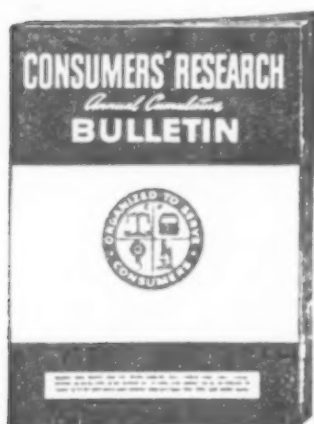
(Continued from page 4)

fruit priced at 12c a pound. In spite of a forty percent difference in price, consumers bought nearly twice as much of the tree-ripened fruit. The station rightly concludes that attention needs to be given to the shipment of more fully ripened fruit.

\* \* \*

**NEW PRODUCTS:** 'Handy-Andy Juice Extractor, made by the Handy-Andy Specialty Co., Inc., Long Island City, N. Y., is now selling in larger department stores for \$1.69. The device consists of 3 units: (a) an aluminum extractor mounted on three hollow aluminum rods on a round base; (b) a 2-cup glass measuring pitcher; and (c) a crank attached to a pronged fruit holding cap fastened to a supporting bar, the ends of which fit into two of the hollow aluminum rods of the base unit. The fruit is pressed down and turned against the extractor by the crank and cap unit. The device was found in use tests to be an effective, quick method of juice extraction. The juicer is, however, somewhat difficult to clean, since the parts which get soiled in the juicing operation are not detachable, and it is necessary to wash all 3 of the parts making up the complete juicer after each extraction.

**L & C Mothproofing Fluid** is a new product alleged to be "non-inflammable, non-poisonous, leaves no odor," which is to be applied to surfaces of woolen clothing with a sprayer until the material is "damp wet." At least one quart of the mothproofing fluid is required for a three-piece suit or overcoat; or one gallon for a 9 x 12 rug. The maker cautions that mohairs or velvet fabrics are not to be touched while wet and linings should be avoided; and that one must be sure the dyes in rugs or fabrics are fast. However, he does not say fast to what, and apparently he means fast to **L & C Mothproofing Fluid**. It hardly seems that the consumer would be in a position to judge that particular



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*Ordered your copy yet?*

**The 1946-47 Annual Cumulative Bulletin  
is in great demand!**

We were mighty busy the latter part of September mailing out copies of the new Annual to subscribers who had placed advanced orders. Our supply is still good, but don't wait too long to order your copy. Just to refresh your memory about the Annual Cumulative Bulletin, we would remind you that it represents a handy 200-page summary of a wide range of CR's previous findings, as well as much new material that has never appeared in any previous CR Bulletin, all carefully indexed for ready reference.

Here are the section headings: Foods and Nutrition; Household Appliances and Supplies; Automobiles, Care, Accessories, and Supplies; Heating Equipment and Fuel; Textiles and Clothing; Photographic Equipment; Radio, Phonograph Players and Records; Medicine and Hygiene; Cosmetics; Home Maintenance and Repair; Clocks and Watches; and Writing Materials.

fastness in advance of trial. It is asserted that the product has the advantage of being unaffected by dry cleaning. L & C Mothproofing Fluid has been examined chemically and found to be free from silicon, arsenic, aluminum, fluorine, calcium, and heavy metals. Definite analysis of this product would be very difficult, but it is believed to contain tri-phenyl-dichlorobenzyl-phosphonium-chloride as its active ingredient. No information is as yet available upon the safety of this substance in contact with human skin; that is, as to whether any element of toxicity is involved. A laboratory test was made to determine the effectiveness of this product. Results indicated that its performance was unsatisfactory. The claim that the product would not be removed from the goods by dry cleaning was, however, substantially correct, in the sense that the performance of the material, although unsatisfactory, persisted well through the dry-cleaning operation (up to five dry cleanings).

Ease is a product recommended for a wide range of household uses in the laundry; for dishwashing; for walls, floors and bathroom fixtures; washing of automobiles. Distributed by Ease, Inc., Los Angeles, it is sold at the price of 59c for a 30-oz. package under the all-inclusive claim: "Relax. Do all your cleaning with Ease." Ease was found upon analysis to consist of a sulfonated organic compound (soap substitute), to which sodium carbonate and a poly phosphate, possibly "quadrofos," have been added. The pH of the solution of Ease is about 9.8, which corresponds to a degree of alkalinity less than that of a soap solution, whence the product should have no more harmful effect on hands in household work than common soap. However, its pH is somewhat higher than some similar products on the market (such as WoolFoam) and hence it might be a little less satisfactory than they for use on woollens. As a matter of fact, there are many household purposes for which soap is the superior method of cleansing and the one to be recommended for normal use, especially in regions where the water is not especially hard. This mixture does have one advantage which is common to all of the commercial materials which depend upon synthetic organic detergents (soap substitutes, such as Dreft, Sudz, Coldfoam, Scoop), that its activity would be little altered by ordinary or usual hardness in the water used. Indeed, it is believed that products of this type will give satisfactory suds with almost any water that is within the range of hardness considered suitable for drinking.

\* \* \*

CORRECTION PLEASE: Dr. Henrietta Herbolsheimer, Chief of the Division of Maternal and Child Hygiene of the Illinois Department of Public Health, quoted in the Observation Post, August 1946, page 4, has asked us to make it clear that the original quotation should have read—"In communities where there is epidemic diarrhea of the newborn in hospitals, expectant mothers should carefully consider having their babies at home."

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# PHONOGRAPH RECORDS



By Walter F. Grueninger

Please Note: Prices quoted do not include taxes. In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended.

**P**HONOGRAPH records are popular gifts, if you keep in mind the tastes of the recipients. In that connection, some of the sets I have recommended this year may serve as a guide. Not that all of the compositions listed are "the world's greatest masterpieces," but of their kind, it seems to me they are worthy of repeated hearing. Moreover, both performance and fidelity were rated A or AA. Sets in the orchestral and concerto fields are listed this month, other categories are planned for next month. Key: V stands for Victor, C for Columbia.

## ORCHESTRA

- **Bach:** *Brandenburg Concertos Nos. 3 & 4.* V1050. \$4.85
- **Beethoven:** *Leonore Overture No. 3.* VSP2. \$2.25
- **Berlioz:** *Symphonie Fantastique.* V994. \$6.85
- **Bizet:** *Symphony in C.* C596. \$4.85
- **Dvorak:** *Symphony No. 5.* C570. \$5.85
- **Franck:** *Symphony.* C608. \$5.85
- **Haydn:** *Symphony No. 98.* V1025. \$4.85
- **D'Indy:** *Istar Symphonic Variations.* VSP16. \$2.25
- *Music of Fritz Kreisler.* C614. \$3.85
- **Mahler:** *Symphony No. 4.* C589. \$6.85
- **Prokofieff:** *Scythian Suite.* V1040. \$3.85
- **Rachmaninoff:** *Isle of the Dead.* V1024. \$3.85
- **Respighi:** *The Birds.* VSP14. \$2.25
- **Respighi:** *The Pines of Rome.* C616. \$3.85
- **Tchaikovsky:** *Nutcracker Suite.* V1020. \$3.85
- **Tchaikovsky:** *Symphony No. 5.* V1057. \$6.85
- **Wagner:** *Siegfried Idyll.* CX265. \$2.75
- *Six Dances.* C588. \$3.85

## CONCERTOS

- **Beethoven:** *Piano Concerto No. 1.* V1036. \$4.85
- **Brahms:** *Piano Concerto No. 2.* C584. \$6.85
- **Bruch:** *Violin Concerto.* V1023. \$3.85
- **Mozart:** *Violin Concerto No. 5.* C609. \$4.85
- **Rachmaninoff:** *Piano Concerto No. 2.* V1075. \$5.85
- **Schumann:** *Piano Concerto.* V1009. \$4.85

## ORCHESTRA

**Grieg:** *Symphonic Dances* (5 sides) & **Liadoff:** *Baba Yaga* (1 side). Indianapolis Symphony Orchestra under Sevitzyk. Victor Set 1066. \$3.85. Pleasant music, worthy of a rare hearing. Performance and recording first rate.

Interpretation AA  
Fidelity of Recording AA

**Haydn:** *Symphony No. 97.* London Philharmonic Orchestra under Beecham. 6 sides, Victor Set 1059. \$3.85. Fair work, well played. Recording deficient in high frequencies. Surface noise louder than usual.

Interpretation AA  
Fidelity of Recording B

**Schumann:** *Symphony No. 1.* Cleveland Orchestra under Leinsdorf. 8 sides, Columbia Set 617. \$4.85. A work of lesser importance played with little charm, recorded rather badly. From the opening chords the superiority on all counts of Koussevitzky's competing Victor Set 655 is clearly evident.

Interpretation B  
Fidelity of Recording B

**Tchaikovsky:** *Symphony No. 5.* Boston Symphony Orchestra under Koussevitzky. 12 sides, Victor Set 1057. \$6.85. A masterpiece. The reading is expansive, often heroic, occasionally exaggerated. Recording suffers when hall reverberation clouds detail in loud passages (particularly the fourth movement) and monitoring minimizes climaxes. As for the best competitors: Ormandy's Victor Set 828 (\$5.85) offers a straightforward reading and remarkably transparent recording (best of this symphony); Columbia's Beecham Set 470 (\$5.85) is unique, eloquent, subtle, not as well recorded as the Victor Sets.

Interpretation AA  
Fidelity of Recording A

## CONCERTO

**Kreisler:** *Concerto in C* (3 sides) & *Chanson Louis XIII & Pavane* (1 side). Fritz Kreisler (violin) & Victor Symphony Orchestra under Voorhees. Victor Set 1070. \$2.85. The concerto in the style of Vivaldi is not without charm but it is trivial. Dignified performance. Full bodied recording, best ever given this distinguished soloist.

Interpretation AA  
Fidelity of Recording AA

**Rachmaninoff:** *Concerto No. 2.* Rubinstein & the NBC Symphony Orchestra under Golschmann (9 sides) & **Chopin:** *Impromptu No. 3.* Rubinstein (piano) (1 side). Victor Set 1075. \$5.85. A melodious, popular concerto which Rubinstein plays with less emotion than you may expect. Very well recorded. Likely to please more persons than any of its competitors though Rachmaninoff's performance is definitive (oldish Victor Set 58) and Moiseivitch's (Victor Set 666) is commendable with transparent, full-bass, English recording. The filler in this new set is decidedly worth while.

Interpretation AA  
Fidelity of Recording AA

## CHAMBER

**Prokofieff:** *Quartet No. 2.* Gordon String Quartet. 6 sides, Concert Hall Society Set A1. Available to members only. The work, written in 1942, grows on me with repeated hearing. Superb performance and recording—"live" chamber, unusually wide range, remarkably clear, well nigh perfect balance with cello tone rarely equalled in quartet recording. Pressed on an excellent grade of ruby colored vinylite.

To lovers of serious music, Concert Hall Society is one of the most promising of many new recording organizations already in production or on the way. According to its press releases, the society will issue twelve sets (this is the first) of "outstanding but seldom heard masterworks...unrecorded contemporary, classic and pre-classic music." Releases are on a subscription basis limited to 2,000 members in order to achieve "uniform high fidelity in the entire output." Connoisseurs for whom the edition is intended are unlikely to find the subscription price unreasonable: eleven sets for \$100 plus taxes, with the twelfth set, under certain conditions, as a bonus. The society will issue, also, unlimited editions of works not included in the subscription series. For details address Concert Hall Society, 250 West 57 Street, New York 19, N.Y.

## VOCAL

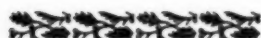
**Wagner:** *Die Walküre—Duet, Act 1, Scene 3.* Helen Traubel (soprano) Emery Darcy (tenor) with the Philharmonic-Symphony Orchestra of New York under Rodzinski. 6 sides, Columbia Set 618. \$3.85. Turbulent love music that has been performed more effectively. Biggest weakness is the young American tenor, Darcy. Recording acceptable, with Darcy getting a bad break in relative microphone placement.

Interpretation B  
Fidelity of Recording A





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